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REPORT ON "LECTURES SERIES"
ORGANISED BY
Maharaja Surajmal Institute of Technology
(Dated: 18-22 December 2017)

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"A Knowledge exchange Lecture Series" was organized by Maharaja Surajmal Institute of Technology, at its premises from 18-22 December 2017. The main objective of the Lecture Series was to disseminate constructive knowledge among the faculty members of the Institute from the learning of some of the faculty who attended the Workshops & FDPs at different reputed institutions of the country.

The following faculty members exchanged the knowledge they have learnt by attending FDPs & Workshops, on various useful topics.

1. **Dr. K. P. Chaudhary,** Director shared his learning experience on the topic "**From 'Idea' to Patented Technology**'. He explained how an idea could be converted to Patent and then Technology Transfer. A new idea of dimension measurement using non-contact method was discussed.

2. **Dr. Poonam Bansal,** Dy. Director-2nd Shift, under the heading **"Sharing Knowledge & Experience"**, shared her experience of the Further Education Leadership Development Programme (FELDP), conducted by the joint partnership of AICTE and UKIERI (UK India Education Research Initiative). UKIERI has been recognized as a key multi-stakeholder venture that has strengthened the educational relations between the two countries and been successful in covering all segments of the education sector. In this lecture, she elaborated the scope and potential of the major three threads of UKIERI, i.e., Leadership and Faculty Development, Integration of Skills in Education and E-Partnership and Research Incubation. She elaborated about the FELDP programme, which was initiated to develop management and leadership skills of further educational institutes and organizations, enabling them to build the systems and processes necessary for their future sustainability. She gave a glimpse of the topics covered in the workshop. She also talked about the other initiatives which are getting initiated by AICTE for the transformation of higher education in terms of research & Innovation Development Schemes, Staff Development Schemes, and Institutional Development Schemes.

3. **Dr. Sudesh Pahal,** Associate Professor, Deptt. of Electronics & Communication Engineering, shared her learning experience on the topics **"Intelligence Transportation System"** a 5 day gain course sponsored by MHRD at DTU, Delhi. The instructor was Prof. Miguel Angel Sotelo, Full Professor, University of Alcala, Spain. He is an eminent professor and very renowned person in the field of ITS as their team has designed their own automated car which can drive without a human being. He elaborated various machine learning techniques which can be used to make transportation system intelligent. The course was comprised of theory as well as practical sessions. I got various ideas and direction for my research in this area after attending this course. An evaluation test was conducted on the last day to be eligible for certificate in which I got 'A' grade. I recommend this course to everyone doing research in this area.

4. **Ms. Sakshi Rajpur**, Assistant Professor, Deptt. of Electronics & Communication Engineering shared her learning experience on the topic **"Network Simulator ns-3 Simulation for Realistic Network Scenario Sim4Net-2017**", she attended at Amity Institute of Information Technology, Amity University Jaipur. The Overview of Workshop's aim is to provide detailed hands-on experience of ns-3 for real data and highlight its scope for research in Ad-hoc Networks. Workshop encourages the development of new protocol, simulation models for infrastructure based networks, setting up typologies; integrate real maps with different traffic simulation tools. ns-3 can be used as a real time network emulator and having predefined modules to work with different network tools.

5. **Dr. Neeru Rathee**, Associate Professor, Deptt. of Electronics & Communication Engineering, shared her learning knowledge on the topic **"Deep Learning for Image and Text Analysis eith Python**" she has attended 5 days workshop at Bhartiya Vidyapeeth college of Engineering, Delhi. The concept of deep learning was introduced along with various nets used in deep learning. Installation of Python with anaconda and Spider was the key feature of FDP. Lab session on tensor flow was very interactive and knowledgeable.

6. **Ms. Saba Khanum**, Assistant Professor, Deptt. of Information Technology shared her learning experience on **"Installation & Introduction of NS3 & its applications**", from 5 days workshop she has attended at Amity University,Rajasthan. She shared that the workshop was totally practical oriented .The main resource person of this workshop was Mohit P.Tahillani. The topic covered was introduction to ns3, basic programming with ns3,integration of ns3 with sumo,tracemetrics and with other modules.

7. **Dr. Anupama Kaushik**, Associate Professor, Deptt. of IT, Ms. Kavita Sheoran, Reader, Deptt. of CSE, Ms. Geetika Dhand, Reader, Deptt. of CSE, Ms. Savita Ahlawat, Reader, Deptt. of CSE and Ms. Deeba Naqvi, Asst. Professor, Deptt. of Applied Sciences shared their learning experience on the topic "**Fuzzy Logic Research Applications,** from attending **International Workshop on Fuzzy Logic Research Applications"** held during 16-20 Sept 2017, at Indira Gandhi Delhi Technical University for Women, Kashmere Gate, Delhi. The workshop was partly sponsored by Department of Science & Technology, Govt. of India. The objective of the workshop was to discuss the core concepts of Fuzzy Logic and its various applications. It also conveyed how fuzzy logic and its allied concepts can be used in research work. All the sessions were explained by the most learned and eminent persons of the field. Few of them were Prof. Michio Sugeno, JAPAN (famous for Sugeno-Integrals), Prof. Ashok Deshpande- Berkeley University and Dr. Debasis Datta, Head Bhabha Atomic Research Centre (BARC) Mumbai. All the sessions were very interactive and the speakers illustrated every topic with real world examples.

8. **Dr. Shaifali Madan Arora**, Associate Professor, Deptt. of ECE, and Ms. Minakshi Tomer, Assistant Professor, Deptt. of IT, shared their learning experiences on "**Deep Learning for Image & Text Analysis with Python**" a 5 day workshop attended by them at Bhartiya Vidyapeeth, Paschim Vihar, New Delhi. They shared that it was a very interesting FDP. Basic concepts of Neural networks and machine learning has been explained that forms the basis for deep learning. Deep learning has been introduced and explained using various case studies from image and text. Implementation of problems in deep learning could be done using various programming languages. Python is one of the programming tools used for deep learning. Its installation, followed by basic programming has been explained and practiced. Implementation of various deep learning problems has been shown using Python. It was a very good FDP for the beginners in this field and gave a good exposure to those working in this field.

9. **Ms. Divya**, Asst. Professor, Deptt. of CSE, shared her learning experience on **"IOT & its Application Areas**", a 5 days' workshop she has attended at Bharati Vidyapeeth College of Engineering. She said that the workshop was totally practical oriented .The main focus was on discussion of the real world application areas of IOT: agriculture, military, nanosciences, biomedics and so on.. On the last day, an industrial visit to Yakult India plant, Sonepat was held.

10. **Ms. Geetanjali Sharma**, Asst. Professor, Deptt. of ECE, shared her learning experience on the topic **"CAD tools for advanced digital design using FPGAs"** an FDP she has attended at MNIT Jaipur. She said that It was a 5 days training workshop held at MNIT Jaipur under the aegis of Electronics and ICT academy on the topic CAD tools for advanced digital design using FPGA. In our training program we learned a new CAD tool named VIVADO for digital design..The complete program was divided in 50 hrs where 25 hrs were for theory and 25 hrs for laboratory session. My experts from academy and industry were there for conducting out session.

11. **Dr. Anju Ahlawat**, Asst. Professor, Deptt. of Applied Sciences, shared her learning experiences on **"Nanomaterials : Characterization & Applications"** she has attended a 5 days short term course organized by NITTTR, Chandigarh. She said that, out of 5 days course, three days were for theory and two days were for practical. In our program, we shared characterization of NMS and various instruments like transmission election Microscope, Atomic Force Microscope, Scanning Tunneling Microscoping etc. In theory we studied about Carbon based NMS, NMS for electronics devices, NMS for Energy & environment, NMS for health care.

12. **Ms. Jyoti Jain**, Reader, Deptt. of EEE, shared her learning experiences on the topic **"Advances in Soft Computing Techniques for solving Engineering problems"** she has attended at Netaji Subhas Institute of Technology New Delhi-110078 (NSIT DELHI). She said that The course provides a great opportunity for the research scholars, graduate and under graduate students, faculty, industry persons to learn the concepts of Soft Computing Techniques for Solving Engineering Problems. The purpose of the intensive 5-day course is to cover the basic theory, methods and tools necessary for Solving Engineering Problems by Soft Computing.

This Lecture Series was very useful, knowledge enhancing, successful and appreciated by all.