MANAV RACHNA UNIVERSITY

Declared as State Private University vide Haryana Act 26 of 2014

MANAV RACHNA UNIVERSITY

(Formerly Manav Rachna College of Engineering)

Faridabad

MINUTES OF

EIGHTEENTH MEETING

OF THE

ACADEMIC COUNCIL

Dated: 16.03.2022

MINUTES OF EIGHTEENTH MEETING OF THE ACADEMIC COUNCIL OF MANAV RACHNA UNIVERSITY HELD ON 16.03.2022 (WEDNESDAY) AT 11:00 AM.

A meeting of the Academic Council of Manav Rachna University was held online on Wednesday, dated 16.03.2022 at 11:00 AM to consider various academic matters.

The following were present:

1) Prof. I.K. Bhat, Vice Chancellor / Chairman
2) Prof. D.S. Sengar, Pro-VC & Dean, Law
3) Prof. V.K. Ahuja, VC, NLU & Judicial Academy, Guwahati
4) Prof. S.K. Garg, Professor, DTU, Delhi
5) Prof. Anita Rastogi, Professor, JMI, New Delhi.
6) Prof. M.L. Singla, Professor, Faculty of Mgt. Studies, DU, Delhi
7) Prof. Raj Senani, Prof. Emeritus & Former Director, NSIT now, NSUT, Dwarka
8) Prof. Devender Kumar, Professor, DTU, Delhi
9) Prof. Sangita Banga, Dean,Academics
10) Prof Pradeep Kumar Varshney, Dean, Research
11) Prof. Shruti Vashisht, Dean, Engineering.
12) Prof. Geeta Thakur, Dean, Student Welfare
13) Prof. Parul Jhajharia, Dean, Management & Commerce
14) Dr. Babita Parashar, Dean, Education
15) Prof. Manpreet kaur, HoD, Computer Science & Technology
16) Prof. Joginder, HoD, Mechanical Engg.
17) Prof. Charu Pathak, HoD, ECE
18) Prof. D.K. Sharma, HOD, Physics
19) Prof. Megha Mittal, HoD, Chemistry
20) Prof. Y.K. Sharma, HoD, Mathematics
21) Dr. Rashee Singh, HoD, Education.
22) Dr. Som Dutt Bhardwaj, HoD, Law
23) Dr. Pragati Chauhan, HoD, Law
24) Prof. Susmita Ray, Professor, CSE
25) Prof. Meena Kapahi, Professor, Chemistry
26) Dr. S.K. Bose, Associate Professor, Law
27) Dr.Deepa Arora, Associate Professor, Maths
28) Dr. Savita Sharma, Associate Professor, Education
29) Prof. Versha Vahini, Assoc. Dean, Law (Special Invitee)
30) Dr. K. Singh, Registrar/Member Secretary

Prof. Vikram Goyal, Professor, CSE, IIIT-Delhi, Prof. Kanupriya Sachdev, Professor, MNIT, Prof. Sangita Kansal, Professor, DTU, Delhi, Prof. Jyoti Pruthi, Professor, CSE, Prof. Hardeo Thakur, Professor, CSE and Dr. Subodh Saluja, Associate Professor, MGT could not attend the meeting due to their other professional engagements. They were granted leave of absence by the Chair:

Following are the minutes of the meeting:

The Registrar welcomed all the members present in the meeting and requested the Vice Chancellor to open the meeting with his brief remarks.

18.1 Opening Remarks by the Chairman

The Chairman, welcomed all the honourable members present in the meeting especially Prof. D.S. Sengar, Pro Vice Chancellor who attended the Meeting for the first time and informed the Council about the activities carried out by the Manav Rachna University, since the last meeting of the Academic Council. Some of the points are listed below:

- **Student Achievements**

- Mr. Srijan student of B.Tech. CSE 6th Semester, selected as Global Trainee – Data Science in Sloan Technologies FZCO, UAE (Technology Division of Ureka Education Group, UK) under Tech in Residence Programme, Silicon Valley Promotion in Jan 2022.

- Mr.Varun Prakash, Mr.Sanjay Singh, Mr.Ankur Kumar Aggarwal, Mr.Sagar Raghav, Mr.Shubham Sood, Mr. M Thurai Pandian, has presented paper titled "A Comparative study of various techniques for crop disease detection and segmentation" at 4th International Conference On Smart Systems And Inventive Technology (IEEE and Scopus Indexed ICSSIT 2022) event held on 20th January 2022.

- Mr. Shivam Minz, Mr. Sanjay Singh, Mr. Ankur Aggarwal, Mr. Nitish Behl, Ms. Prerna Rajput, Ms. Siya Sharma, "A Gesticulation superintend Arm with Ardunio IDE" presented paper at 4th International Conference On Smart Systems And Inventive Technology (IEEE and Scopus Indexed ICSSIT 2022) on 20th January 2022.

- Ms. Somya Tanwar published paper on "An Overview: Drugs Used as corrosion inhibitor" in International journal of Science, Engg. and Management

- Ms. Somya Tanwer and Mr. Sudhish Kumar Shukla published three papers titled "Evaluation of Corrosion inhibition properties of pharmaceutically active compound Cefotaxime sodium on mild steel surface in sulfuric acid medium" in Journal of the Turkish Chemical Society Section A: Chemistry, "Corrosion Inhibition Activity of Cefixime on Mild Steel Surface in Aqueous Sulphuric Acid Progress in Color, Colorants and Coatings and "Recent advances in the applicability of drugs as corrosion inhibitor on metal surface: A review" in Current Research in Green and Sustainable Chemistry.

- Mr. Prakash Sharma, student of B.Sc. (H) Mathematics, Third Semester, won Gold Medal in the "PENCAKSILAT DISTRICT CHAMPIONSHIP 2021", held on 12th September, 2021. He also won Gold Medal in the "HARYANA STATE OPEN KUDO CHAMPIONSHIP 2021", held from 11-14 Nov 2021, Bronze Medals in two separate events viz. "FARIDABAD WUSHU CHAMPIONSHIP 2021", held on 30th October 2021 and "WAKO INDIA NATIONAL KICKBOXING CHAMPIONSHIP" held from 27- 30th Dec 2021.

- Ms. Gauri Verma and Mr. Sarthak Rastogi students of B.Tech. CSE 8th Semester won the first position at Extempore Elocution and GD Competition and entered Level-1 of the competition on 13th Jan 2022.

- Ms.Khushi Kathuria, a student of B. Tech CSE 6th Semester anchored the session in the debate competition WIECHAR organized by IEEE WIE AG Delhi Section in the international conference IEEE DELCON 2022.

➢ **Awards and Recognition to the Faculties**

- Dr Versha Vahini, Associate Dean, School of Law, conducted FDP on Teaching Challenges in Present Scenario & Multi disciplinary Research methods in SNBP Law College, online for 2 days in January 2022.

- Dr. A. Jayamani , Assistant Professor, from Dept. of Chemitry received "Best Young Faculty Award" from Sri Karunandar Charitable Trust, Thiruvannamalai, Tamilnadu on 29th December 2020.

- Dr. Manpreet Kaur HoD, Dept. of CST received a certificate of Recognition on Dec 2021 from IEEE, Region 10 Asia Pacific for her services as Chairperson, IEEE Women in Engineering Delhi Section. She is also elected as Joint-Secretary, IEEE Delhi Section for 1 year i.e. Jan -Dec 2022. She was also invited as Track Chair and Publicity Chair, in International Conference on Electrical, Electronics and Computer Engineering DELCON-2022 at Netaji Subhas University of Technology organized by IEEE Delhi Section.

- Dr Sanjay Singh, Associate Professor, CST and Mr Ankur Aggarwal, Assistant Professor, CST received Certificate of Appreciation for leading android Educator program on Educator in Manav Rachna University during 2020-2021 academic year from Google Developer.

- Dr. Shalu, Assistant Professor, Dept. of CST was Invited as keynote speaker in the international conference "Engineering and Management Science 2022" for Expert Talk on "Modern research and innovation practices" on 14th Feb 2022, Greater Kolkata College of Engineering and Management. She also delivered an expert talk in One Day National Level Workshop on "IPR, INNOVATION AND RESEARCH ", on 25TH October, 2021 in Phulsing Naik Mahavidyalaya (Arts, Commerce & science), Pusad, Maharashtra.

- Dr. R. GIRIJA Associate Professor, from Dept. of CST delivered an expert talk on "A Practical approach for classifying the images based on deep learning" at VIT University for 2 hours on 3rd-5th September 2021.

- Dr. Hardeo Kumar Thakur, Professor, Dept. of CSE invited as Session Chair/ Track Chair in four International conferences held during the Dec-2021 to Feb-2022 as below.

  - Third International Conference on Advances in Information Communication Technology & Computing (AICTC-2021) on 20 December 2021 at Engineering College Bikaner, Rajasthan

  - International Conference on Advances in Computing and Future Communication Technologies (ICACFCT-2021) organized by the Meerut Institute of Engineering & Technology, Meerut, U.P., India during 16 and 17 December 2021.

- 7th International Conference on Computing in Engineering and Technology (ICCET-2022) organized by the Dr. Babasaheb Ambedkar Technological University, Lonere., India during 12 and 13 February 2022.
- International Conference on Machine Vision and Augmented Intelligence (MAI- 2022) organized by National Institute of Technology, Jamshedpur

- Mr. Sharv Datt Anand, Assistant Professor, Dept. of Education & Humanities, Invited as guest speaker for Research Programme by Down Syndrome International, University of Northampton, United Kingdom from 1st December onwards
- Dr. Savita Sharma, Assistant Professor, Dept. of Edu. & Hum. selected as the member of the focused group -SCERT Delhi for the position paper 'Curriculum and Pedagogy' for the State Curriculum Framework (part of forthcoming NCF). She also selected as Mentor for the Course 'Art Integration: Road towards True Inclusion' under UNESCO Open Education for Better World Initiatives.
- Mr. Sharv Datt Anand, Assistant Professor, Dept. of Edu. & Hum. was Invited as a guest speaker in a national webinar on the topic" Teaching Learning Interventions in Inclusive Classrooms" on 18th February 2022 by NCERT. He was also invited for a panel discussion by Down Syndrome International for planning a way ahead for project work on 18th February 2022.
- Dr Versha Vahini, Associate Dean, SoL, delivered an Extension Lecture on Corporate Law in DAV Centaury College on 8th December 2021. She also conducted an online training on the topic Abuse of Dominance with case laws in an Online Training program for sales and marketing team in School of Competition Law and Market Regulation at Indian Institute of Corporate Affairs on 3rd and 10th Dec. 2021.
- Dr. Manmeet Bali Nag selected as Panelist for Kashmir Policy & Strategy Group, on Civilian Killings in Kashmir - Cause, Effect & Remedies. She also Selected as Mentor of Change at ATAL and appointed as Innovation Mentor at RIICO (Rajasthan Govt undertaking)
- Dr Pragati Chauhan, HoD, Dept. of Mgt. & Com. was invited as a Jury in Lakshya – A National Level Business Plan Competition held in Virtual Platform from 20th – 22nd January 2022 under ICEIL'22 organized by Amity Centre for Entrepreneurship Development, Amity University.
- Dr. Yogita Sharma, Associate Professor, Dept. of Mgt. & Com. conducted an expert talk on "Marketing in an Enterprise" in DGR Program on January 4, 2022 at The National Institute for Entrepreneurship and Small Business Development (NIESBUD), Noida under Ministry of Skill Development & Entrepreneurship, Govt. of India.

➢ **Research and Innovation Activities**

1. Research Publications

Research Publications in Journals and Conferences & h-index of the University: Faculty and students have published 27 research papers in Scopus / Web of Science listed databases

journals and 07 research papers presented by faculty members and students in Conferences. The details are as follows:-

(i). **Journal Publications**

(a) Synthesis of bimetallic AuAg nanoparticles by sequential ion implantation for modifying surface-plasmon-resonance properties, Devarani Devi K., Sharma A., Ojha S., Parkash J., Vij A., Sharma R.K., Singh F., Materials Letters, Volume 308, Part B, 1 February 2022, 131283

(b) Electronic structure and magnetic assets of FeCoGaO4 nanoparticles: An XANES investigation, Sharma A., Varshney M., Kumar Y., Lee B.-H., Won S.O., Chae K.H., Vij A., Sharma R.K., Shin H.-J., Journal of Physics and Chemistry of Solids, Volume 161, February 2022, 110476

(c) Blockchain Technology in Healthcare, Khosla A., Vashist S., Nijhawan G., EAI/Springer Innovations in Communication and Computing, Page No. 163-185, January 2022

(d) An experimental approach to find aniline-formaldehyde co-polymers as effective inhibitor on the interface of low carbon steel immersed in 0.5N HCl mixtures, Dwivedi A., Bharti P.K., Shukla S.K., Journal of the Indian Chemical Society, Volume 99, Issue 3, January 2022, 100356

(e) An ensemble model to optimize modularity in dynamic bipartite networks, Chaudhary N., Thakur H.K., Dwivedi R., International Journal of Systems Assurance Engineering and Management, https://doi.org/10.1007/s13198-022-01633-1, January 2022

(f) A trust-worthy approach to recommend movies for communities, Jha G.K., Gaur M., Thakur H.K., Multimedia Tools and Applications, https://doi.org/10.1007/s11042-021-11544-1, January 2022

(g) Structural, Electronic Structure, and Photovoltaic Studies of MgO/TiO2/ITO Heterostructures, Gaur D., Sharma S., Sharma A., Sharma D.K., Shukla S., Journal of Electronic Materials, Volume 51, Issue 1, January 2022, Pages 314-320

(h) Recent advances in the applicability of drugs as corrosion inhibitor on metal surface: A review, Tanwer S., Shukla S.K., Current Research in Green and Sustainable Chemistry, Volume 5, 2022, 100227, December 2021

(i) Cloud Attack classification using Supervised Machine Learning and Deep Neural Network, Chandni Magoo, Design Engineering, Vol.2021, Issue 9, 3729- 3737, December 2021

(j) A study of effect of different leadership styles of principal on teachers job satisfaction in secondary school teachers of Mumbai region, Ram Shankar Varma, Rashee Singh, Journal of Modern Thamizh Research, Sl No-42, Pages 288-300, December 2021

(k) Pandemic, Infodemic and People's resilience in India:Viewpoint, Syed Shabbir, Babita Parsahar, JMIR Public Health and Sureveillance, Vol no. 7, No. 12 , December 2021

(l) Numerical modeling for computation of confined energy states in oblate spheroidal quantum dots: effect of dot size, eccentricity and surrounding matrix, Deepti Maikhuri, Soumyadeep Manna, European Physicsal Journal plus, Vol.136, 1196, December 2021

(m) Graphene sheet with periodic vacancy: A first principles study, Deepti Maikhuri, Jai Parkash, Haider Abbas, Physica Scripta, Vol.96, No. 12, December 2021

(n) Impact of Media on the Health Consciousness of the Millennial Generation, Saumya Singh, Pooja Kapoor, Sanjay Srivastava, Anand Prakash, Prabhandhan: Indian Journal of Management, Vol.14, Issue 12, December 2021

(o) Community Service Sentence' as an alternative mode of punishment in India- Analysis of the potential and feasibility, Udit Raj Sharma, Nidhi, Kala Sarovar, Vol.24, No. 4, December 2021

(p) Imperceptible effects of Chloranthranil Prole on the Eco system - A Critical Review, Vandana Nandal and Manu Solanki, Pollution Research, Issue 40 (4): 1309-1315, December 2021

(q) MSME Performance impacted by it adoption- an appraisal of literature from developing and developed countries, S. Srilekh, Pooja Kapoor, Journal of General Management Research, Symbiosis Center for Management Studies, Noida, Volume 8, issue 2, December 2021

(r) India's Transformative Constitutionalism: Role of Indian Supreme Court & competing Public Morality, Divyanshu Chaudhary, Akansha Ghose, HNLU Journal of Law and Social Sciences, Vol.7, December 2021

(s) Influence of co-ligand on the biological properties of Schiff base metal complexes: Synthesis, characterization, cytotoxicity, and antimicrobial studies, V. Thamilarasan, J. Kim, M. Azam, S. I. Al-Resayes, A. Stalin, B. S. Kannan, A.Jayamani, A. Arumugam, N. Sengottuvelan, Applied Organometallic Chemistry, https://doi.org/10.1002/aoc.6542, December 2021

(t) PlasmaBlock: a plasma donation blockchain system in COVID-19, Riya Sapra, Parneeta Dhaliwal, International Journal of Networking and Virtual Organisations, Vol. 25, Nos. 3/4, 2021, December 2021

(u) A comparative study on the occupational Aspiration of the BPL and Non-BPL Card holder students of Class 9th in the Goverment Schools of Haryana, Rashee Singh, Journal of Education , Rabindra Bharati University, Vol No. XXII,No. 1, November 2021

(v) Chemico-Mineralogical Evaluation of Clinker from Four Different Zones of India: A Comparative Study Toward Development of Portland Limestone Cement (PLC) in Indian Scenario, Gupta, S., Mohapatra, B.N. & Bansal, M, Metallography, Microstructure, and Analysis, 10, pages 448–457, November 2021

(w) An intelligent approach for automated argument based legal text recognition and summarization using machine learning, Riya Sil, Alpana, Abhishek Roy, Mili Dasmahapatra, Debojit Dhali, Journal of Intelligent & Fuzzy Systems, Vol. 41, no. 5, pp. 5457-5466, November 2021

(x) Evaluation of Corrosion inhibition properties of pharmaceutically active compound Cefotaxime sodium on mild steel surface in sulfuric acid medium, Sudhish Kumar Shukla, Somya Tanwer, Journal of Turkish Chemical Society Section A: Chemistry, Vol. 8, Issue 4, pp: 1099-1110, November 2021

(y) Improving Student's learning ability through social constructivist approach, Ankit Maheswari and Rashee Singh, The International Journal of Current Advanced Research (IJCAR), Issue 10 (c); page No.25410-25413, October 2021

(z) A Review on Applications of Artificial Intelligence over Indian Legal System, Riya Sil, Alpana, Abhishek Roy, IETE Journal of Research, https://doi.org/10.1080/03772063.2021.1987343, October 2021

(aa) A roadmap of steganography tools: conventional to modern, Pilania U., Tanwar R., Gupta P., Choudhury T., Spatial Information Research, Vol.29, Issue-5, Page No. 761-774, October 2021

(ii). **Conference Publications:**

(a) Use of Artificial Intelligence in Banking Sector: A Study on Commercial Banks, Ashima Saxena, 1st International Conference on Emerging issues in Business & Economic Research during 17-18 December 2021

(b) Effect of n-CdS layer thickness on the power conversion efficiency of p-CIGS/n-CdS/n-ZnO solar cell: A numerical simulation study, Vijay Kumar Gill, Shiv Kumar Dixit, Shruti Vashist, XXI International Workshop on Physics of Semiconductor Devices, (IWPSD 2021), during 14-17, December 2021

(c) Low Cost Portable Refrigeration Systems for Fruits and Vegetables during Lockdown, Charu Pathak, Shruti Vashist, ICF-CEET 2021 during 19-20 November 2021

(d) Computational Study of Small Vanadium and Chromium Oxide Clusters: Effect of Hydrogenation, Ankur Chahal and Haider Abbas, IOP Conf. Series: Materials Science and Engineering, during 5-6 November 2021

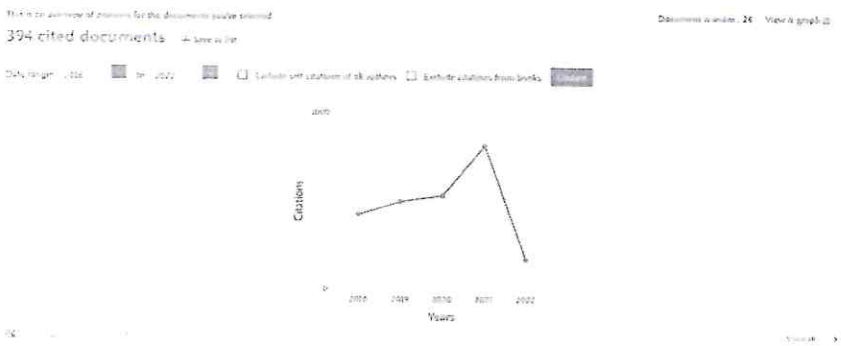
(e) Impact of Fractal Musical Signals on the Human Brain: A Proposed EEG Study, Neha Batra, Sachin Lakra, IEEE 12th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON) 2021 during 27-30 October 2021

(f) Syntheis, electronic structure and magnetic properties of FeCoGaO4 nanoparticles, Aditya Sharma, Yogesh Kumar and Mayora Varshney, Internaional Conference on Advanced materials for Societal Applications, during 26-28 October 2021

(g) Heterogeneous Catalytic System for Transformations of Inedible Biomass into Valuable Chemicals, Jaya Tuteja during 14-15 October 2021

(iii).h-index and total publications of University

The total no. of publications of University has increased to 394 from 367 as per Scopus database and University h-index also increased to 28 from 26. The h-index graph is given below-



(iv). Books/Book Chapters

- Lets' Read: A case study of metamorphosis in Kargil Schools by Babita Parashar, January 2022

- Cellulose Science and Derivatives by Arpit Sand and Sangita Banga, December 2021 (ISBN 978-1-83969-578-0)

- Diverse Dimension of Smooth Student Teacher Interaction by Babita Parashar, December 2021 (ISBN 978-93-93115-02-7)

2. Sponsored Research Projects

Faculty members have been submitting proposals time to time but due to some constraints unable to get any funding in the past but efforts are on in the direction to generate Research and Development grant from Funding organizations. The detail of the recently submitted 05 proposals by the faculty members to SERB, ICSSR, DST, Govt. of NCT and IEEE HAC are given below:-

(i). SDG aligned dimension pertaining to "Labour, Livelihood & Employment", as mandated by the mentioned University, Dr. Geeta R Thakur, to Azim Premji University on 10.09.2021 (Rs. 17.00 lacs) and selected for presentation on 31.01.2022 (Result will be declared in March 2022)

(ii). Impact of Meditation and Art related Engagement for Mental Health with the application of Bio-Chemical Processes and Cognitive Neurosciences using Machine Learning techniques, Dr. Geeta R Thakur, Dr. Sakthi Ganesh Murugesan (UPES) to Science and Engineering Research Board (SERB) on 12.10.2021 (Rs. 27.21 lacs, Under Review)

(iii). An Intelligent System for Managing & Controlling Covid and similar Pandemic, Dr. Susmita Ray, Dr. Jyoti Pruthi to Science and Engineering Research Board (SERB) on 12.10.2021 (Rs. 28.45 lacs)

(iv). COVID VACCINE DASHBOARD, Dr. Manpreet Kaur to IEEE HAC (IEEE Humanitarian Activity Challenge) on 16.08.2021 (4500 USD)

(v). Wastes to Resources - An awareness campaign for Waste Management, Dr. Meena Kapahi under "Creation of Management Structure for Hazardous Substance" scheme of Ministry of Environment, Forest and Climate Change (Rs. 20.00 lacs) Presentation date is 24.2.2022.

3. IPR Cell Initiatives

The following initiatives are taken by IPR Cell of the University:-

(i). IPR Cell of Manav Rachna University registered for KAPILA scheme on 03.01.2022 for getting reimbursement of IPR expenses of faculty members and students under Ministry of Innovation Cell, AICTE

(ii). IPR Cell organized IP Awareness Programme on 20th January 2022 in collaboration with Institution's Innovation Council, Ministry of Commerce and Industry and NIPAM (National IP Awareness Mission)

(iii). 05 Provisional Patent applications were filed, 09 patent application got published and 01 patent granted to faculty members of the University. The details are given below:-

- **Provisional Filed Patent Applications-05**

- The composition for increasing flame longevity and reducing camphor volatility, Pradeep K. Varshney, Meena Kapahi, Abhishek Basoya, Mukul Raghav, Chandvi Sharma filed on 29/12/2021 vide application no. 202111061475

- Lead-Acid battery cell reconfigurable arrangement for enhanced battery life, Yogita Khanna, Pradeep K. Varshney, Y K Awasthi, J.P. Sharma, Rudra Pratap, Aryan filed on 29/12/2021 vide application no.202111061504

- TEATEST, Meena Kapahi, Roopa Rani, Kashish Kohli filed on 29/12/2021 vide application no.202111061579

- Refrigeration Automation System, Charu Pathak, Shruti Vashist filed on 29/12/2021 vide application no.202111061566

- A System using AI based unmanned aerial vehicle for solid waste management & environmental sensing, Dr. Renuka Sharma, Miss. Shyla, Miss. Prerana Rai, Dr. Shalu, Uma Tomer, Miss. Mamta, Miss. Pushpa, Dr. Mandheer kaur, Dr. Shikha, Tapan Kumar,

- Dr. Radhika G. Deshmukh, Dr. Sangita Ingole, Prof. Ramesh Chandra Panda filed on 25/11/2021 vide application no. 2021/09621

- **Published Patent Application-09**

- Title of the invention : Design System of PEIS for Handle Large-RFID Network, Authored by Dr. M.Thurai Pandian, Dr.P.Damodharan, Dr.Sanjay Singh, Mr.Ankur Kumar Aggarwal, vide Patent Application No.202141046045, The Patent Office Journal No. 43/2021 Dated 22/10/2021. INTELLECTUAL PROPERTY, India.

- Dr. Shalu published the following utility patents:

  - System and Method for Monitoring Water Quality of Biofloc Fish Culture
  - A System for Monitoring Social Distance and generating System Using IoT
  - Artificial Intelligence based Skin Cancer Inspection Device
  - Microcontroller Based Hydrophonic System and Ultrasound Pump Control Apparatus
  - A IoT Based Coagulation Analyzer
  - IoT Based Sand-Air Jet Machine, application number 2021/08283 under Intellectual Property Right, Govt of South Africa.

- Dr. Yogita submitted Patent on "Microwave Sensing device for dielectric characterization of materials" and Lead-Acid battery cell reconfigurable arrangement for enhanced battery life.

- Dr. Manpreet Kaur HoD, CST, Dept received funding of 300USD from IEEE Asia Pacific for organizing WIE Symposium 2021 as Special Funding Scheme by IEEE R10 on 10 Oct 2021.

- A system for Mathematical Representation of Various Physical Systems Using Interactive Graphic User Interface and Method thereof by Anil Kumar, Rashmi Mishra, Adarsh Mangal, Hambeer Singh, Sachin Kumar, Ruchi Gupta, Sajjan Lal & Rupa Rani Sharma vide Indian Patent Application (202111057737 A) Published dated-17.12.2021

- **Granted Patent Application -01**

A Advanced ISF method by using laser & advance mechanism by Ajay, Deepak Dahiya, Sujata Nayak, Parneeta Dhaliwal, Tushar Choudhary, Anil Kumar Gillawat, Mamta Dahiya,

Shivashankarayya, Rajesh Goel, Anivel Sambasivam & Victor Gambhir vide Australian Patent Application (2021102997) Granted dated-13.10.2021

4. Consultancy Earned By Faculty Members

The following initiatives are taken by Consultancy Cell of the University:-

(i). Five (05) Consultancy projects received by Management and Commerce department worth Rs. 5.74 Lacs. The details are given below

- Managing Logistics for OEM during Pandemic with Rs. 94400/-on 08.02.2022 (Ms. Vandana Zutshi Bhat)
- Training for export Documentation by Sandiya Export with Rs. 150000/- on 08.11.2021 (Dr. Ashish Pandey)
- Taxation Norms and Strategies for International Trade with Rs. 80000/-on 05.11.2021 (Dr. Shweta Goel)
- Developing Templates for Effective Customer Response for Events with Rs. 100000/- on 29.10.2021 (Dr. Animesh Singh)
- Growth of Daily Services of E-Commerce Providers by Welio Retail Pvt. Ltd. with Rs. 150000/- on 26.10.2021 (Dr. Rashi Banerji)

(ii). Another consultancy project of Department of Law is principally agreed worth Rs. 0.25 Lacs (Dr. Versha Vahini).

5. University Innovation and Incubation Cell

The following initiatives were taken by Innovation Incubation Cell of the University:-

(i). ARIIA 2022 registration and confirmation of participation process complete. Collection of ARIIA 2022 Pre-Qualifier data is in progress.

(ii). MRU IIC Faculty Members joined MIC Driven Activity of IIC 4.0 Orientation Session on 24th January 2022.

(iii). IIC, MRU (Entrepreneurship Incubation and Startup) celebrates start-up day on 17th January 2022 with a start-up Quiz for students, staff and faculty members.

(iv). MRU Faculty members and students joined the MIC Driven Activity of "e-Symposium on Building Innovation and Entrepreneurial Ecosystem in Educational Institutions" on 11th & 12th January 2022.

(v). MRU-IIC achieved 4 star rating in innovations by Ministry of Education-Innovation Cell, AICTE for consecutive last three consecutive years, which is amongst top 70 institutions (total 250) in the country and top 15 (total 62) under North-West Region (NWRO).

(vi). MRU IIC has planned out IIC 4.0 Q1+Q2 Activities (total of 14 activities) and already executed 3 MIC Driven Activities. Annual Plan for MRU IIC for calendar year January-December 2022 has been laid out; IIC faculty members are collaborating to finalize it.

(vii). MRU has been recognized in the band "PROMISING" under the category of "University & Deemed to be University (Private/Self Financed) (Technical)" in Atal Ranking of Institutions on Innovation Achievement (ARIIA) 2021.

6. Hackathons and Competitions

The following initiatives were taken by Innovation Incubation Cell of the University:-

- SIH 2022 problem statements are published. Information has been communicated to all students of all engineering departments with circulation of Google Form for enrolling team information and identified problem statements the teams want to work to develop solution. Internal Hackathon will be conducted in March 2022 for evaluation and selection of the top performing teams to participate in SIH 2022.
- An international event Youth Activities for Superior Humanity (YASH-2022) has been planned to be conducted in collaboration with FGSI during 31st August to 2nd September 2022.

7. Skill Development & Advance Learning Scheme

The following initiatives have been taken by skill development team of the University:-

- Compassionate Integrity Training Self-directed Learning (CIT-SDL) course for developing emotional intelligence skills by UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP). Under this University initiative all engineering students have registered this course on 13th Jan 2022.
- Faculties are providing 3 months training on "basics of Computer" to school students under the initiative 'Kaushal' a Skill Development program in association with Kedman Skilling Pvt. Ltd. From 26th Dec. 2021.

8. Entrepreneurship, Pre Incubation and Startups

The following initiatives were taken by the University in the area of Entrepreneurship, Pre Incubation and Startups team:-

(i). E-Cell completed Smart (Skill Management & Accreditation of Training Centers), registration on National Skill Development Corporation (NSDC) Portal on 30th December 2021.

(ii). E-Cell organized National Level Awareness Program on 'Entrepreneurship' in association with National Small Industries Corporation (NSIC) floated by Micro Small and Medium Enterprises (MSME) on 24th November 2021 for BBA Students.

(iii). E-Cell organized Industrial visit to National Small Scale Industries Corporation, Faridabad on 26th October 2021 for 3rd and 5th Semester students of BBA Entrepreneurship & Family Business and BBA Operations Management.

(iv). Manav Rachna Centre of Peace and Sustainability presents "Sound of Silence: Manav Rachna Meditates" on 23th October 2021. The Guest speaker for the session is Dr. Prema Seshadri, Senior International Faculty, The Art of living Foundation.

(v). E-Cell organized Idea Generation Workshop on 'Sustainable Solutions' for BBA students organized on 13th October 2021.

In addition to these initiatives, following two New Startups got funding from NewGen IEDC for their innovative ideas for the development work:-

1. 02 students namely Vikas Baisoya, Sarthak Negi ECE 8th semester received prototype development grant Rs. 2.5 Lacs from NewGen IEDC, MRIIRS for their startup 'INNOMINATE'.

2. 01 student namely Aditya Pandit, Mechanical 8th semester student received prototype development grant Rs. 2.5 Lac from NewGen IEDC, MRIIRS for their Startup 'Vee12Auto'.

9. Annual Magazine "Allurance"

The second issue of "Allurance" annual magazine is finalized and very soon it will be released.

10. MOU's Related to Research, Innovation & Consultancy

Memorandum of Understanding Renewed / Signed new ones

The following MOUs are either renewed or newly signed for the promotion of research, innovation and entrepreneurship activities with industry partners:-

1. MOU signed from National Small Industry Corporation (NSIC) to work together for imparting skill through training program(s) to the students engaged with Manav Rachna University in the campus of NSIC-TSC or at Manav Rachna University campus or as agreed mutually with an aim to address the skill requirements of the industry on 08.02.2022 for 1 Year. The SPOC Person for the renewed MOU is Dr. Yogita Sharma, Associate Professor, Management department.

2. MOU signed from Banking, Financial Services and Insurance Sector Skill Council of India (BFSISSC) to expected work along with BFSI SSC towards development of Attitude, Skills and Knowledge of its students on 01.01.2022 for 1 year. The SPOC Person for the signed MOU is Dr. Pragati Chauhan, HOD Management.

3. MOU renewed from Reinste Nano Ventures Pvt. Ltd. to promoting excellent quality man power in the field of engineering, technology and science with special emphasis on nanotechnology based products and related fields on 23.12.2021 for 3 Years. The SPOC Person for the signed MOU is Dr. A. Jayamani, Assistant Professor, Chemistry department.

4. MOU renewed from Atal Incubation Centre, BIMTECH to appreciated each other's objectives in promoting excellence in knowledge sharing and development, internship for management and engineering students, training and professional education in the area of Entrepreneurship, AIC BIMTECH startups are allowed to lab facilities and equipment for research and development on 13.12.2021 for 5 years. The SPOC Person for the renewed MOU is Dr. Pragati Chauhan, HOD Management.

11. Manav Rachna Research Instrumentation Centre, MRRIC

A new centre is setup in the campus in the name of Manav Rachna Research Instrumentation Centre, (MRU-IC) to provide a central facility of latest and advanced analytical equipments for undergraduate and postgraduate students, doctoral research scholars, and faculty members.

02 equipments FTIR with ATR and GCMS of Shimadzu are in the process of procurement from Toshvin Analytical Pvt. Ltd.

The Rules & Regulations of the Centre is finalized for approval from competent authority.

12. Computing Cluster-RCC

The following activities have been undertaken by Computing Cluster-RCC of the University:-

1. Computing Cluster organized 5 weeks hands on training on 'Machine Learning' which were held from 25.10.2021 to 19.11.2021. Total 46 students registered for training. 20 students completed the course and 04 students trained.
2. Working on project "Mental Health during covid 19", Ms. Mahika, Dr. Hardeo Kumar thakur, Ms. Priyanka Gupta
3. "InterviewAid - an interview preparation website", Start Up/Project: .Mr. Rishav , Dr. Hardeo Kumar thakur, Ms. Priyanka Gupta

With these remarks, the Hon'ble Chairman, requested Registrar to take up agenda of the Meeting. The Registrar thanked the Chairperson and took up the agenda items of the meeting one by one as under:

18.2 Confirmation of the Minutes of the 17th Meeting of the Academic Council held on 30.10.2021

Hon'ble Members of the Council were informed that Minutes of the 17th Meeting of the Academic Council, held on 30.10.2021, were circulated to all the members through email on 25.11.2021, no comments were received from any member. The Council was requested to confirm the minutes of the meeting.

Decision: Academic Council confirmed the minutes of last meeting of the Council.

18.3 Action taken report on the decision taken in the 17th meeting of the Academic Council.

Registrar while apprising the Members about the minutes of the meeting of the last academic council also took up the action taken report on the decisions of the last Meeting of the Academic Council for ease of the members. Detailed report on implementation of project-based learning was presented by the Hon'ble VC under separate agenda as matter for information. Efforts of the University were duly appreciated by the member. Members were requested to take the action taken report on record.

Decision: Academic Council took the Action Taken Report on record.

18.4 Matter for information

Registrar informed the members that he would like to skip the points already covered by the Hon'ble Vice Chancellor in his opening remarks to avoid any repetition. He presented some of the matters not mentioned by the Chairman for information of the Hon'ble members:

(i). Achievements of Faculty & Students from last meeting onwards
(ii). Events, Workshops organized by the Department
(iii). MOU executed with university for academic developments
(iv). Impact study for the Courses offered in PBL mode by the Dept. of Engineering.
(v). Change in Course Assessment Plans (CAP) of Epidemiology offered in BBA- HCM 6th Sem. through MOOC platform.

(vi). Change in the credits of courses on Environmental Sciences and Applied Entrepreneurship offered in all BBA Programs.

(vii). Change in the nomenclature of BBA -Operations Management to BBA – Global Operation Management.

(viii). Discontinuation of specialization in Health Care offered with B. Tech ECE and offering the course on "Health care" as an elective.

In the last meeting of academic Council, Prof. Senani had desired that a review should be presented in the next meeting and its impact informed to the council to decide on future course of action on Project Based learning. A detailed presentation was made by the Hon'ble VC about courses offered under PBL mode, the challenges faced while delivering such courses and outcomes from the PBL. He further informed the members that on the basis of success of PBL as adopted in last semester, some other courses have been identified to be delivered in the present semester. The outcome from PBL was widely applauded by the Hon'ble Members. A report on PBL is annexed as **Annexure-I.**

The Hon'ble Chairman, pointed out that the total Credits under all BBA Programs are very high, which requires a review and suggested to keep it at par to about 120. Dean Mgt & Commerce assured that she would do the needful as advised and inform the same in the next meeting of the Academic Council.

Hon'ble members were requested to allow for taking the above information on record.

Decision: Academic Council took the above information on record.

18.5 **Matter for ratification**

(i). Approval of MOOC courses under offer in the Even Semester by all the three Departments under School of Engineering.

The Council was apprised that the School of Engineering has been offering Certificate Course from Altair University to the students of all the engineering streams. The students, who complete certification courses from Altair University are assessed by 80% (as per the criteria set by Altair University for awarding Certification course) and remaining 20% jointly by external experts of Altair and internal faculty of the engineering departments. Besides the above courses, all other MOOC courses, which are under offer are from NPTEL for all the engineering departments and science departments.

Similarly, the Department of Education & Humanities has also been facilitating the students to take up the MOOC Courses from NPTEL platform in the B.Ed and Integrated B.A. / B.Sc. - B.Ed.

The university has evolved a mechanism to identify the courses that can be taken by students besides the assessment of such courses. The Hon'ble Members were requested to ratify the action taken by the University.

Decision: Academic Council ratified all such MOOC courses annexed Annexure-II

18.6 **Approval of provisional admissions made in UG/PG programs during 2021-22**

Hon'ble Members were informed that University had started the admission process for the academic session 2021-22 by inviting applications from the aspiring candidates from Jan-2021. MRNAT were conducted twice on 22-23 May-2021 and 11-12 Jul-2021 respectively. The merit list of the eligible candidates was prepared for admissions in the UG & PG Programs, they were asked to submit their fee as per the instructions given in the brochure. Admission letters were

issued after the students on paying the required fee. The walk-in counselling (Offline/Online) started from May-21 which continued till last date of admission i.e. 31.12.2021, as per the guidelines of the Regulatory Bodies, for all the UG/PG programs. Total **610** admissions have been made in all professional and non-engineering Programs. The faculty wise / program wise break of the students admitted in the various programs were presented before the Hon'ble Members.

The Members were also apprised that based on the number of withdrawals taken place in the last two academic years, University took a decision of admitting approximately 10% more candidates (i.e. 258 against intake of 240) for the academic session 2021-22, in the B. Tech Computer and its specializations to meet expected drop outs from the admissions in the programs. However, this year less withdrawals took place till-date in the program, which resulted in extra admissions of 18 in B.Tech. CSE programme. Under such a situation Vice Chancellor suggested that no lateral admissions will be made for this program and its specializations during the academic session 2022-23. The members agreed to the suggestion. The Council was requested to approve the admissions made in all the UG &PG programs for the Academic session 2021-22.

Decision: Academic Council approved the provisional admissions made in UG/PG programs during academic session 2021-22 with the stipulation that no admission would be made in B.Tech. CSE and its specializations through lateral entry during the Academic Year 2022-23

18.7 Approval of provisional admissions made in Ph.D. Programs in January -2022 (Academic Session 2021-22).

The Council was informed that University for the first time since its inception in the 2014 initiated the process for admission to Ph.D. Programs for the Jan-2022 session (Academic year 2021-22) by inviting application, notifying through the website of the University and also advertising in the leading newspapers. 126 applications were received, out of which 26 aspirants were exempted from test & course work as per approved norms of UGC. Out of remaining 100, 90 candidates appeared in the online written test conducted by the University on 15.01.2022. Finally, 38 Candidates were selected for admission to Ph.D. Programs against 56 seats available with the departments, the details of which are as under-:

S. No	Department	No of Forms Filled	Appeared in Entrance Test	Selected	Waiting	Total Admissions
1	CST	16	13	10	2	8
2	ECE	2	2	2	0	1
3	ME	1	1	1	0	1
4	Phy	5	2	2	0	2
5	Chem	6	4	4	0	1
6	Maths	3	3	3	0	1
7	Law	18	12	2	6	2
8	Education	32	22	7	14	6
9	Management	43	31	7	15	8
	Total	**126**	**90**	**38**	37	**30**

It was also informed to the Members that 30 candidates have already joined the Ph.D. program. The course work for them was started from February 19, 2022. List of Ph.D. Scholars admitted

to the program were presented before the Members with the request to approve the provisional admissions made in Ph.D. Programs in January -2022 (Academic Session 2021-22).

Decision: Academic Council approved the provisional admissions made in Ph.D. Programs in January -2022 (Academic Session 2021-22).

18.8 Program Structure, Syllabus and Scheme of Evaluation for 3 Year LLB Program

It was informed that the Academic Council in its 16th Meeting had approved the proposal of the Department of Law to offer 3 Year LLB Program from the Academic Session 2022-23. The application for approval has been already submitted to BCI for its approval. The programme structure, syllabus which are in consonance with BCI curriculum and scheme of evaluation, duly approved by the Board of Studies and Board of Faculty of the School of Law, are taken up for consideration and approval of the Academic Council. The Programme structure and the syllabus were presented before the Hon'ble Members. After detailed discussion, Council was requested to approve the Program Structure, Syllabus and Scheme of Evaluation for 3 Year LLB Program.

Decision: Academic council approved the Program Structure & Syllabus for 3 Year LLB Program.

18.9 Approval of The Program Structure of LLM (Part Time- 2 year duration) Program

Academic Council was apprised that the Dept. of Law has proposed to offer LLM (Two Year-Part Time) Program with an intake of 10 from the academic session 2022-23. This program is meant for the young and working judicial members as well as to the Advocates having more than 3 years practice. The Department has adopted the same syllabus & program structure as approved for LLM One Year program. However, subjects are re-arranged, due to longer duration of the program. The Program Structure of the LLM (Part Time- 2 year duration) Program was presented before the Hon'ble Members for their consideration and with a request to approve the same.

Decision: Academic Council approved the Program Structure of LLM (Part Time - 2 Year) Program.

18.10 Starting a Course on Mediation Law for 2022-23 batch and onwards.

The Academic Council was apprised that, based on the suggestion of the UGC Expert Committee, which visited the campus in the month of August – 2021, the Department of Law intends to start a course on Mediation Law in 5 Year Law (Hons.) and L.L.B (3 Year) programs. Board of Studies and Board of Faculty of the School of Law, have recommended the course on "Mediation Law" for consideration of the Academic Council. The proposed course will be integrated with B.A. L.L.B. & B.B.A. LL.B. (5 Year) and L.L.B. (3 Year) program structures from the Academic Session 2022-23. The syllabus of Mediation Law was prepared in coherence with the syllabus prescribed by the BCI and presented before the Hon'ble Members. One of the Hon'ble members, Prof. V.K. Ahuja, suggested that the Mediation Bill 2021, which is yet to be notified, is not referred in the Program Structure, hence it be included once notified. He also suggested that University should nominate faculties to attend the Mediation programs organised by the Supreme Court in association with Delhi University. Hon'ble Chairman agreed with the suggestions.

Decision: Academic Council approved the proposal of starting the Course on Mediation Law for 2022-23 batches and onwards with above suggestions.

18.11 Introduction of 5 Year BBA-MBA Program with multiple exit options from the Academic Session 2022-23.

The Academic Council was informed that the Department of Management and Commerce has proposed to introduce Integrated Five Year BBA – MBA program with intake 30 from the Academic Session 2022-23. It proposes the same in the area of Health Care Management, Global Operation Management as discussed by the department. This Integrated Program shall have multiple Exit Options in coherence with the New Education Policy 2020. The department has worked out that a student shall have the option/choice to exit from the program at different stages. In case, a student leaves the program after One year, the Course Certificate will be awarded to him. If one leaves after 2 Years, Diploma will be awarded. Bachelor Degree will be awarded after Completion of 3 Year and Master's Degree after completion of the 5year duration of the Program. If Academic Council agrees then the proposal shall be sent to AICTE for approval for starting the program.

During the deliberation, one of the Hon'ble Members inquired about the name of the Certificate, program structure for Certificate, Diploma, Degree, Post Graduate Degree and employability of student taking up the certificate course. In response to the same, Dean, Management informed that these are yet to be finalised by the department and shall be worked out if Academic Council approves the proposal in principle.

Decision: Academic Council deferred the proposal with the advice that the Department of Mgt. & Commerce would consider all the above points and come with full details in the next meeting of the Council for consideration.

18.12 Introduction of MBA Program in Business Analytics from the Academic year 2022-23.

Academic Council was informed that the Department of Management and Commerce intends to start MBA in Business Analytics from the academic session 2022-23. The BOS and BOF of Department of Management and Commerce has concurred with the introduction of new program "MBA-Business Analytics" with intake 30 from the academic session 2022-23. The members were told that once agreed in principle the it shall be sent to the AICTE for its approval. Dean, Management and Commerce presented the program structure for all the four semesters for consideration of the Academic Council. While going through the structure, the Chairman suggested that the Department should share the program structure with the Expert Members and seek their suggestions whether any addition or changes are required in the course structure. Once the comments are received the same may be incorporated in the draft to be submitted to AICTE.

Decision: Academic Council approved the above proposal in principle with above suggestion and authorised the Vice Chancellor to approve the same after suggestion from the Member Experts.

18.13 Rounding off fractional credits in some of the courses offered under B. Tech. Engineering Programs based on feedback received from EVC of the UGC.

The Council was informed that the UGC Expert Committee, which visited the University in the month of August – 2021, had advised for rounding off the total credits in some of the Engineering programs which were in fraction. The School of Engineering, accordingly, considered the same and made the necessary changes wherever required and have reported

the same to their respective Boards of Studies. Now, the total credits for normal B. Tech. Programs were kept as 160 and for B. Tech. Specializations, it was kept as 180. With these changes the total credits for B.Tech Computer Science and Engineering stand modified to 161 and B.Tech. specialization courses to 180 -182. With these changes the Program Structure of B. Tech. Engineering Programs, duly approved by BOS and BOF, was presented before the Hon'ble Member for their consideration with a request to approve the same.

The Chairman suggested the Department to share the program structure with Expert Members of the field and seek suggestions whether any addition or changes are required in the programm structure.

Decision: Academic Council authorised Vice Chancellor to approve the same after suggestion from the Member Experts are received.

18.14 Approval of new Panel of Experts for their association with different statutory bodies & selection committees of the University.

Academic Council was informed that the panel of experts for all the departments was approved by the Council in its 10th meeting held on 22.04.2019.as per the provisions envisaged in sub clause x (n) of the clause 8 of the First Statutes. The list of experts members being almost three year old, need to be made a fresh. The HoDs of the academic departments were requested to suggest the names of the eminent persons from the respective fields for preparing a new panel of experts for the departments. The same was presented before the Academic Council for consideration.

The Hon'ble Chairman suggested that the list be shared with the expert members of the respective fields who will have a look on it and suggest, if any other member is required to be added or names suggested in the panel is required to be substituted with other names in the Panel. It was unanimously agreed.

Decision: Academic Council authorised Vice Chancellor to approve the Panel of Experts for various Departments after it is seen and concurred by the Expert Members.

18.15 Approval of syllabus of BBA -Business Analytics proposed to be offered in Second Semester.

Academic Council was informed that after their approval in 16th meeting, the BBA Business Analytics program with intake 30 from the academic session 2021-22 has been started . Program structure of all the six semesters and syllabus of First semester, was also approved by the Academic Council in its 16th meeting held on 20.07.2021. The BoS of the Department has considered the syllabus of 2nd Semester of BBA-BA and recommended the same for approval of the Academic Council. Detailed syllabus of the Second Semester was presented before the Hon'ble Members for consideration. The Chairman advised the Department to share the syllabus with Expert Members of the field and seek suggestions whether any addition or correction is required in the course syllabus. All the members agreed it.

Decision: Academic Council authorised Vice Chancellor to approve the same after suggestion from the Member Experts.

18.16 **Any other Item with permission of Chair**

(i). **Introduction of additional Elective Courses, Certification Courses and Area Specific Courses .**

Dean, School of Applied Sciences apprised the Members that the Board of Faculty of the School of Applied Sciences in its meeting held on 09.03.20222, concurred the proposal of the departments to introduce the following elective courses, Certification Courses and Area Specific Courses under UG, PG & Ph.D. Program:

Elective Courses		
Courses Name	**Program & Semester**	**Department**
Applied chemistry	B.Sc. (H) Chemistry- 5th Semester	Dept. of Chemistry
Nano Chemistry	B.Sc. (H) Chemistry- 5th Semester	Dept. of Chemistry
Quantum Computing	B.Sc. (H) Physics - 5th Semester	Dept. of Physics
Photonics	M. Sc. Physics - 3rd semester	Dept. of Physics

Certification Course		
Courses Name	**Program & Semester**	**Department**
Cement Technology	All M.Sc.(Chemistry) students from 2022	Dept. Of Chemistry
Nano Sciences	All B.Sc.(H) & M.Sc. Physics Chemistry	Dept. of Physics & Chemistry
Food Technology	B. Sc (H) –Chemistry	Dept. Of Chemistry
Environmental Audit, Planning & Management	B.Sc. (H) Chemistry students from 2022	Dept. Of Chemistry

Hon'ble Chairman, opined that these Certificate Courses should be optional for the students pursuing UG /PG Programs and also advised that the course contents of the elective & domain specific courses be shared with the subject experts of the Academic Council for their observations and suggestion if any. He also suggested that Value added courses should be approved by the Board of Studies & Board of Faculty of the concerned School and there is no need to bring these to Academic Council. This was unanimously agreed by the Council.

Decision: Academic Council authorised Vice Chancellor to approve the same.

(ii). **Revision in program structure and syllabus of some courses of B Ed-Special Education**

Department of Education has proposed the revision in program structure and syllabus of some courses of B Ed-Special Education, which will be implemented for the batches admitted in this year 2022-23 and onwards. As per the guidelines given by RPWD Act 2016, it is mandatory that special emphasis be laid on updation of the skills among students with appropriate pedagogies

required for inclusive classroom. The National Education Policy 2020, also talks of developing critical thinking skills and making classroom more inclusive. Proposed Syllabus of B.Ed. Special Education has been considered by BOS and BOF of the concerned school and recommended to Academic Council for its approval. Revised syllabus was presented in the meeting for consideration of the Council. It was advised that syllabus be forwarded to the expert for its comments and thereafter, be got approved by the Vice Chancellor.

Decision: Academic Council authorised Vice Chancellor to approve the same after suggestion from the Member Experts.

(iii). Rounding off the fractional credits and integration of "Pedagogical Skills-II courses" in the program structure of B Ed. & Integrated BA/B. Sc. B Ed programs.

It is submitted that the Department of Education has proposed the rounding off the fractional credits in two Education programs viz B.Ed. & B.Ed. Spl. Edu., keeping in view the observations of the UGC team's as under:

1. In case of B.Ed. Program total credit modified from 81.5 to 85
2. For B. Ed. Spl Edu from 84.5 to 88

Besides, the one additional course on **"Pedagogical Skills-II" is also proposed to be added in the program structure of B Ed. & Integrated BA/B. Sc. B Ed programs.**
Modified Program Structure and syllabus of one additional course on **"Pedagogical Skills-II** were presented in the meeting for consideration of the Council. It was advised that syllabus be forwarded to the expert for its comments and thereafter, be got approved by the Vice Chancellor.

Decision: Academic Council authorised Vice Chancellor to approve the same after suggestion from the Member Experts.

The meeting ended with a vote of thanks to the Chair

(Dr. K. Singh)
Registrar/Member Secretary

F.NO. MRU / AC (A&M) / Vol. IV / 2018/ **Dated 30.03.2022**

Copy To,

1) PS to Chancellor for kind information to Hon'ble Chancellor
2) PS to VC for kind information to Hon'ble Vice Chancellor
3) PS to VP, MREI for kind information to Hon'ble Vice President
4) Prof. D.S. Sengar, Pro-VC & Dean, law
5) Prof. S.K. Garg, HOD-ME., Delhi Technological University, Delhi
6) Prof. Raj Senani, Professor Emeritus & Former Director, NSIT now, Netaji Subhash University of Technology, Dwarka, Sector-3, New Delhi-110078.
7) Prof. Anita Rastogi, Professor, JMI University, Maulana Mohammad Ali Jauhar Marg, Ghaffar Manzil Colony, Jamia Nagar, Okhla, New Delhi, 110025.

8) Prof. Kanupriya Sachdeva, Professor, MNIT, , Jawahar Lal Nehru Marg, Jhalana Gram, Malviya Nagar, Jaipur, Rajasthan 302017.
9) Prof. Devender Kumar, Professor, Delhi Technological University, Bawana Rd, Delhi Technological University, Shahbad Daulatpur Village, Rohini, Delhi, 110042
10) Prof. M.L. Singla, Professor, Faculty of Management Studies, Delhi University
11) Prof. Vikram Goel, Professor, Comp. Sci. & Engg, IIIT-Delhi
12) Prof. Sangita Kansal, Professor, Department of Applied Mathematics, DTU
13) Prof. V.K. Ahuja, Vice Chancellor, National Law University and Judicial Academy, Assam
14) Prof. Sangeeta Banga, Dean Academics
15) Prof. Shruti Vashisht, Dean, Engineering
16) Prof. Pradeep Kumar Varshney, Dean, Research & Applied Sciences
17) Prof. Parul Jhajharia, Dean, Management and Commerce.
18) Dr. Babita Parashar, Dean Education
19) Prof. Geeta Thakur, Dean, Student welfare
20) Prof. Manpreet Kaur, HoD, Computer Science & Engineering
21) Prof. Joginder Singh, HoD, Mechanical Engg.
22) Prof. Charu Pathak, HoD, ECE
23) Prof. Megha Mittal, HOD, Chemistry
24) Prof. D.k. Sharma, HOD, Physics
25) Prof. Y.K. Sharma, HoD, Mathematics
26) Dr. Rashee Singh, HoD, Education.
27) Dr. Somdutt Bhardwaj, HoD, Law
28) Dr. Pragati Chauhan, HoD, Management
29) Prof. Sushmita Ray, Professor, CSE
30) Prof. Jyoti Pruthi, Professor, CSE
31) Prof. Meena Kapahi, Professor, Chemistry
32) Prof. Hardeo Thakur, Professor, CSE
33) Dr. S.K. Bose, Assoc. Professor, Law
34) Dr. Deepa Arora, Assoc. Professor, Maths
35) Dr. Subodh Saluja, Assoc Prof, Management
36) Dr. Savita Sharma, Asst. Professor, Education

ANNEXURE - I

Report on Impact Study on Project Based Learning

(Department of Computer Science & Engineering)

A). PBL pedagogy was employed in the following courses in July-Dec 2021:

1	Supervised Learning	III
2	Artificial Neural Networks	V
3	Computer Vision	VII
4	Cloud Computing	VII
5	User Interface-1	I

B). Benefits observed for students:-

Both cognitive and behavioral outcomes were observed:-

- Engages both heart and mind
- Deeper understanding
- Increase their confidence in real world problem solving
- They feel more satisfied when they see real world impact of their product
- Learn Team work
- Learn how to communicate their efforts put into that project to the audience
- Increases teacher student relationship
- Knowledge creation

C). Benefits observed for department:-

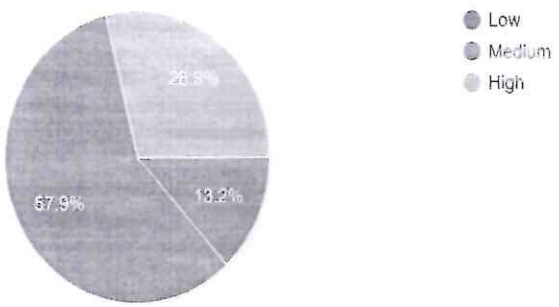
Probability of projects being published as research papers/ national & international level hackathons/ project competitions increases.

D). Feedback responses shared by students

A feedback form has been shared with students at the end of the course. Following responses has been received.

Describe the degree to which you feel that your skillset has been enhanced through Project based learning ?

38 responses



2.

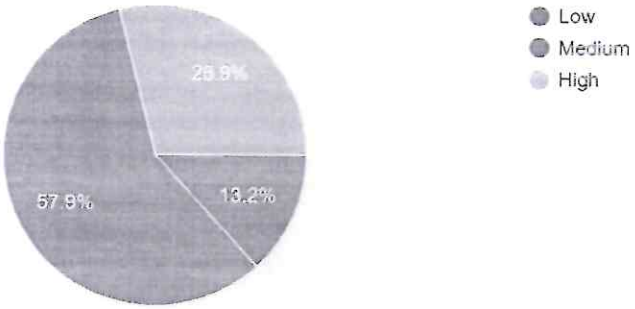
Describe the degree to which you feel that your skillset has been enhanced through Project based learning ?

- Low
- Medium
- High

3.

Describe the degree to which you feel that your skillset has been enhanced through Project based learning ?

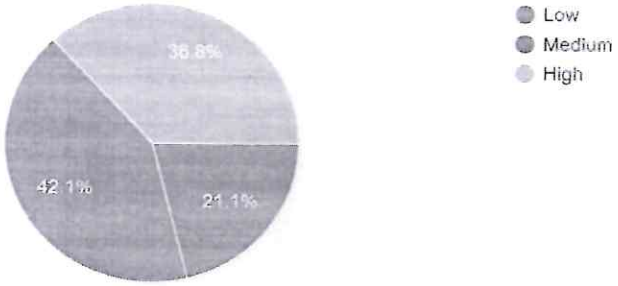
38 responses



4.

Describe the degree to which you feel your confidence and ability in undertaking a real world problem is enhanced?

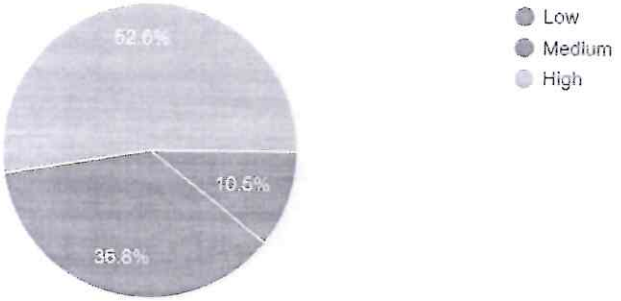
38 responses



5.

Describe the degree to which you feel Project based Learning increases interaction between faculty and students?

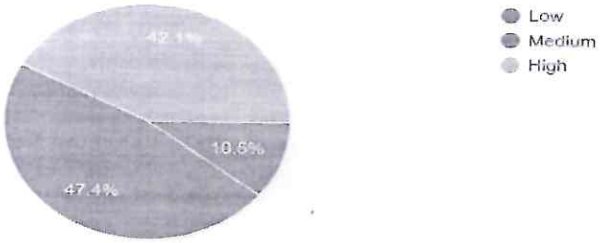
38 responses



6.

Describe the degree to which you feel PBL helps you to acquire relevant knowledge as required for profession

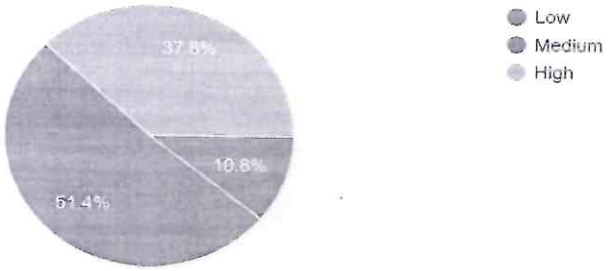
38 responses



7

Describe the degree to which you feel PBL has enhanced your analytical skills?

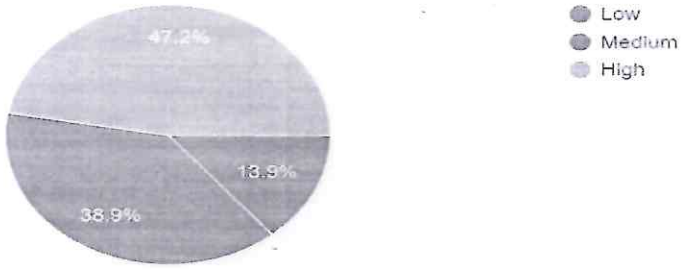
37 responses



8.

To what degree do you recommend Project Based Learning for this course?

36 responses



MANAV RACHNA UNIVERSITY
SWAYAM-NPTEL Courses for Semester Jan-April, 2022
Faculty of Engineering : Department of Electronics and Communication
B.Tech. 6th Sem

SNo	Course Type (Domain \ Allied Elective)	Semester	NPTEL Course	Institute	Discipline	Course Start date	Course End date	Exam date	SME Name	Duration/ Credits at MRU	Mapping Status Full/Partial	CourseLink
1	Allied Elective	B.Tech 8th Semester	Integrated Marketing Management	IISc	Management	January 24, 2022	March 18, 2022	27 March, 2022	Prof. R. Srinivasan	8 WEEKS	Full	https://onlinecourses.nptel.ac.in/noc22_mg29/preview
2			Marketing Management	IITK	Management	February 21, 2022	April 15, 2022	23 April, 2022	Prof. Jayanta Chatterjee	8 WEEKS	Full	https://onlinecourses.nptel.ac.in/noc22_mg05/preview
3			Services Marketing	IITKGP	Management	January 24, 2022	February 18, 2022	27 March, 2022	Prof. Biplab Datta	4 WEEKS	Full	https://onlinecourses.nptel.ac.in/noc22_mg44/preview
4			Introduction to Programming in C	IITK	CSE	February 21, 2022	April 15, 2022	23 April, 2022	Prof. Satyadev Nandakumar	8 WEEKS	Full	https://onlinecourses.nptel.ac.in/noc22_cs40/preview
5		B.Tech 6th Semester	Introduction to Database Management Systems	IITM	Computer Science and Engineering	January 24, 2022	April 15, 2022	23 April, 2022	Prof. Sreenivasa Kumar	12 WEEKS/5 CREDITS	Full	https://onlinecourses.nptel.ac.in/noc22_cs57/preview

DEPARTMENT OF MECHANICAL ENGINEERING
MOOC/NPTEL COURSES LIST

S.No	Course Type (Domain \ Allied Elective)		NPTEL Course	Institute	Discipline	Course Start date	Course End date	Exam date	SME Name	Duration/ Credits at MRU	Mapping Status Full/Partial	CourseLink
1	Domain Elective	B.TECH 6 SEMESTER	Manufacturing Automation	IIT Kanpur	MECH	24 Jan 2022	18 Feb 2022	27 Mar 2022	Prof. Sounak Kumar Choudhury	4 WEEKS	FULL	https://onlinecourses.nptel.ac.in/noc19_me78/preview
2	Domain Elective	B.TECH 4 SEMESTER	Mechatronics	IITR	MECH	24 Jan 2022	18 Feb 2022	27 Mar 2022	Prof. Pushparaj Mani Pathak	8 weeks	FULL	https://onlinecourses.nptel.ac.in/noc22_me54/preview
3	Domain Elective		Mechanics of Machining	IITG	MECH	24 Jan 2022	18 Feb 2022	27 Mar 2022	Prof. Uday S. Dixit	8 weeks	FULL	https://onlinecourses.nptel.ac.in/noc22_me13/preview
4	Domain Elective		Manufacturing Guidelines of Product Design	IITR	MECH	21st Feb 2022	15th Apr 2022	24 Apr 2022	Prof. Inderdeep Singh	8 weeks	FULL	https://onlinecourses.nptel.ac.in/noc22_me56/preview

MANAV RACHNA UNIVERSITY
SWAYAM-NPTEL Courses for Semester Jan-April, 2022
Faculty of Engineering : Department of Computer Science & Technology
B.Tech. CSE 6th(General+DSML/DTE) Semester

SNo	Course Type (Domain \ Allied Elective)	NPTEL Course	Institute	Discipline	Course Start date	Course End date	Exam date	SME Name	Duration/ Credits at MRU	Mapping Status Full/Partial	CourseLink
1	Domain Elective	NPTEL MOOC Course -The Joy of	IIT Ropar	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Sudarshan Iyenga	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106182/
2		Social networks	IITRopar	CSE	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Rishi Ranjan Sing	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106169/
3		Introduction to Internet of	IIT kharagpur	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Sudip Misra	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105166/
4		Introduction to machine	IIT Mumbai	CSE	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Balaraman Ravin	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106139/
5		Deep Learning	IIT KGP	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Prabir Kumar Bis	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105215/
6		Business analysis and data	IIT Roorkee	Management	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Gaurav Dixit	12 weeks/4	Full	https://nptel.ac.in/courses/101/104/101104069/
7		Online Privacy	IIITH	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Kumaraguru	12 weeks/4	Full	
8		Industrial Internet Of Things	IIT KGP	CSE	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Sudip Misra	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105195/
9		Development Using UML, Java	IIT KGP	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Rajib Mall	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105224/
10		Getting Started with Competitive	IIT Ganchinagar	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Neeldhara Misra	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106231/
11		Foundations of Cryptography	IIIT Bangalore	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Ashish Choudhur	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106221/
12		Ethical Hacking	IIT KGP	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Indranil Sengupta	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105217/
13		Data Analytics with Python	IITR	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Prof. A. Ramesh	12 weeks/4	Full	https://nptel.ac.in/courses/106/107/106107220/
14		Blockchain and its Applications	IITKGP	CSE	January 24, 2022	April 15, 2022	April 23, 2022	Chakraborty	12 weeks/4	Full	
15	Workshop Elective	Programming, Data Structures And Algorithms Using Python	CMI	CSE	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Madhavan Muku	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/106/106106145/
16		Systems Engineering	IITM	CSE	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Chester Rebeiro	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/106/106106199/
17		NPTEL MOOC Course -Programmi	IIT KGP	CSE	18-Jan-21	12-Mar-21	21-Mar 21	Prof. Partha Pratim Di	8 weeks/1.5	Full	
18		Data Science for Engineers	IITM	CSE	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Ragunathan Ren	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/106/106106179/
19		Distributed Systems	IIT Patna	CSE	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Rajiv Misra	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/104/106104182/
20		Human-Computer Interaction	IITG	CSE	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Samit Bhattachar	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/103/106103220/
21		Data Mining	IIT KGP	CSE	February 21, 2022	April 15, 2022	April 23, 2022	Prof. Pabitra Mitra	8 weeks/1.5	Full	https://nptel.ac.in/courses/106/105/106105174/

ANNEXURE - II

MANAV RACHNA UNIVERSITY
SWAYAM-NPTEL Courses for Semester Jan-April, 2022
Faculty of Engineering : Department of Computer Science & Technology
B.Tech. CSE 6th(General+DSML/DTE) Semester

S.No	Course Type	NPTEL Course	Institute	Course	Course	Exam date	SME Name	Duration/	Mapping Status	CourseLink
1	Domain Elective	Joy of computing using Python	IIT Ropar	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Sudarshan Iyenga	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106182/
2		Social networks	IITRopar	January 24, 2022	April 15, 2022	April 24, 2022	jan Singh & Prof. Sudar	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106169/
3		Introduction to Internet of	IIT kharagpur	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Sudip Misra	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105166/
4		Introduction to machine	IIT Mumbai	January 24, 2022	April 15, 2022	April 24, 2022	rof. Balaraman Ravindr	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106139/
5		Deep Learning	IIT KGP	January 24, 2022	April 15, 2022	April 23, 2022	rof. Prabir Kumar Biswa	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105215/
6		Business analysis and data	IIT Roorkee	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Gaurav Dixit	12 weeks/4	Full	https://nptel.ac.in/courses/101/104/101104089/
7		Online Privacy	IIITH	January 24, 2022	April 15, 2022	April 23, 2022	Kumaraguru	12 weeks/4	Full	
8		Industrial Internet Of Things	IIT KGP	January 24, 2022	April 15, 2022	April 24, 2022	Prof. Sudip Misra	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105195/
9		Development Using UML, Java	IIT KGP	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Rajib Mall	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105224/
10		Getting Started with Competitive	IIT Gandhinagar	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Neeldhara Misra &	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106231/
11		Foundations of Cryptography	IIIT Bangalore	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Ashish Choudhury	12 weeks/4	Full	https://nptel.ac.in/courses/106/106/106106221/
12		Ethical Hacking	IIT KGP	January 24, 2022	April 15, 2022	April 23, 2022	Prof. Indranil Sengupta	12 weeks/4	Full	https://nptel.ac.in/courses/106/105/106105217/
13		Data Analytics with Python	IITR	January 24, 2022	April 15, 2022	April 24, 2022	Prof. A. Ramesh	12 weeks/4	Full	https://nptel.ac.in/courses/106/107/106107220/
14		Blockchain and its Applications	IITKGP	January 24, 2022	April 15, 2022	April 24, 2022	Chakraborty	12 weeks/4	Full	
15	Soft Elective-1(Finance & Econom	Behavioral and Personal Finance	IITKGP	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Abhijeet Chandra	8 Weeks/2	Full	https://nptel.ac.in/courses/110/105/110105144/
16		Design Thinking - A Primer	IITM	February 21, 2022	March 18, 2022	April 23, 2022	Mahalingam Prof. Bala	8 Weeks/2	Full	https://nptel.ac.in/courses/110/106/110106124/
17		Foundation Course in Managerial	IITKGP	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Barnali Nag	8 Weeks/2	Full	https://nptel.ac.in/courses/110/105/110105075/
18		Ethics In Engineering Practice	IITEGP	February 21, 2022	April 15, 2022	April 23, 2022	of. Susmita Mukhopadh	8 Weeks/2	Full	https://nptel.ac.in/courses/110/105/110105097/
19	Soft Elective-2(Sociology & Psych	Emotional Intelligence	IITKGP	January 24, 2022	March 18, 2022	March 27, 2022	f. Rabindra Kumar Prad	8 Weeks/2	Full	https://nptel.ac.in/courses/109/105/109105116/
20		Introduction to Psychology	IITK	January 24, 2022	March 18, 2022	March 27, 2022	Prof. Braj Bhushan	8 Weeks/2	Full	https://nptel.ac.in/courses/109104105/
21		Towards an Ethical Digital Society	IIIT Bangalore	January 24, 2022	February 18, 2022	March 27, 2022	Prof. Bidisha Chaudhur	8 Weeks/2	Full	https://nptel.ac.in/courses/109/106/109106184/

Manav Rachna University School of Education & Humanities MOOC Offered		
Sr No	**Semster**	**Course Name**
1	BA-BEd/ BSc-BEd-I & BEd-I	Developing Soft Skills and Personality
2	B Ed-II, BA-BEd-II & BSc-BEd-II	Better Spoken English/ Speaking Effectively
3	BA-BEd-IV & BSc-BEd-IV	Design Thinking
4	BEd-II/ BA-BEd-IV & BSc-BEd-IV	Principles of HRM/Principles of Management
5	BA-BEd-IV, BSc-BEd-IV, Bed-II	Language and Mind
6	BA B.Ed/ BSc B.Ed Sem VII & BEd-III	Educational Leadership