



**MANAV RACHNA  
UNIVERSITY**

Declared as State Private University vide Haryana Act 26 of 2014

## **ANNUAL REPORT**

### **ACADEMIC YEAR**

**2020-2021**



**MANAV RACHNA UNIVERSITY**  
**Sector -43, Aravalli Hills, Surajkund Road, Faridabad,**  
**Haryana -121003**

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### **“Manav Rachna”**

Manav Rachna carries forward the mantle of excellence and professionalism with the philosophy of Manav Rachna.

### **“Vidyantariksha”**

This is a conjunction of the words ‘vidya’ and ‘antariksha’. “Vidya means knowledge, information, the basis of creativity and innovation. It is the foundation of technology and envisages the future. “Antariksha means ‘the sky’ the space which we belong to or exist. It can be broken into ‘antar’ and ‘ikshan’ which means inner vision. Hence the combination, the core promise of Manav Rachna becomes “the reality of inner vision or root of all knowledge”.

# CHAPTER 1

## ABOUT THE UNIVERSITY

### 1.1 Executive Summary

Manav Rachna University (MRU) is a leading State Private University established vide Haryana State Legislature Act No 26 of 2014 & Under Section 2(f) of UGC Act 1956 and included in the list of Universities by UGC. The University offering globally relevant education and is also listed on the official website of Government of Haryana. The University has evolved from Manav Rachna College of Engineering (MRCE), which was established in the year 2004; a NAAC accredited 'A' Grade institution. The accreditations/rankings are testimonial to the trust of accrediting bodies in the quality of education being offered, a well-established teaching and learning process guided by the global best practices and a culture of academic excellence promoting research, innovation & entrepreneurship. The University has five faculties and nine Academic Departments. The Programs offered at Faculty of Engineering, Faculty of Law & Faculty of Education and Humanities are approved by the respective regulatory bodies like AICTE, BCI, and NCTE & RCI.

University Campus is spread over approximately 10.48 acres with a built-up area of 37487 sq. mtr. The campus, just 15 Km away from south Delhi, provides state-of-the-art facilities and ambience for a conducive learning environment.

Our vision is to educate students in the frontier areas of knowledge enabling them to take up challenges as ethical and responsible global citizens.

MRU has been bestowed with QS I-Gauge overall Gold rating and has been awarded Diamond rating in facilities and student employability for 2018-21. MRU is among the few Institutions in country who have received E LEAD Certification by QS I Gauge for their readiness to deliver online (2020-21)

As per Times Engineering Survey 2020, Manav Rachna University is among the top 2 emerging engineering institutes and is ranked number 1 in research capability & Placements. Also, university has been recognized as valuable Swayam-NPTEL local chapter with rating of 'A'. Innovation Incubation Council (IIC) of MRU established under AICTE- Ministry of Innovation Cell, GOI received 4 Star Rating for the year 2020-21, in the North West Region. University has collaborated with the leading universities and Institutions both at global and national level for delivering the best education to its students. It has strong industry connect for the design and delivery of various courses.

University upgrades its curriculum to keep pace with the latest trends and keeps it recent and relevant. It has incorporated courses like Artificial Intelligence, Machine Learning, Data Analysis, Mechatronics, Robotics, Nanotechnology, Financial management, HR Management to name a few to impart training and prepare its students for leadership positions of tomorrow.

The academics at MRU is designed towards providing the students a strong background in fundamentals, an ability to translate it to real-life problems and a capacity to design, build and analyze different products, processes and systems. Guided by international best practices, the teaching-learning process ensures the development of Global Graduate Attributes as recommended by various professional bodies/societies.

The academic process is outcome based and ensures development of the desired skill set. Choice Based Credit System provides flexibility to the students to take courses from the areas of their interest. Learner Centric Education with latest pedagogical approaches like active

learning, collaborative and cooperative leaning, and agile methodology ensures holistic development of graduates who understand the impact of their actions/ decisions on the society and environment.

University envisions developing Sustainable Development as a thrust area of Research and Innovation. The research training provided to our graduate students creates the next generation of leaders well-prepared to advance knowledge and transfer of technology. Several Live Projects are being given by Industry to the UG students to work on and come out with innovative solutions. Any new Knowledge created by the Students and Faculty through their research and innovation is disseminated through publishing of books, research papers in the reputed Journals and filing of Patents. The dedication and hard work of its faculty and students is acknowledged in terms of awards & recognition they receive at different forums. Inculcating entrepreneurial skills is given its due importance and the University has established its incubation centre.

We continually seek feedback from all our stakeholders, analyse it and take action wherever required. We are conscious of the need to adopt various measures for quality assurance and have taken suitable measures in that direction. Transparency in all our operations, emphasis on an honest and sincere approach, has gained us respect and we are the preferred choice of the faculty and students in northern India.

## **1.2 Statutory Recognition**

Manav Rachna University is a State Private University, established vide Haryana State Legislature Act No 26 of 2014 & under section 2(f) of UGC Act 1956. The University has evolved from Manav Rachna College of Engineering (MRCE), a NAAC Accredited 'A' Grade institute.

## **1.3 Vision**

Manav Rachna University envisions educating students in frontier areas of knowledge enabling them to take up challenges as ethical and responsible global citizens.

## **1.4 Mission**

- To impart outcome based holistic education
- To disseminate education in frontier areas
- To produce globally competitive, ethical and socially responsible human resources
- To produce human resources sensitive to issues of Environment and Sustainable Development
- To develop Environment and Sustainable development as thrust area of research and development.

**1.5 OFFICERS OF THE UNIVERSITY**



*CHANCELLOR*  
Dr. Prashant Bhalla



*VICE CHANCELLOR*  
Prof. (Dr.) IK Bhat



*VICE PRESIDENT, MREI*  
Dr. Amit Bhalla



*REGISTRAR*

Dr. Kameshwar Singh



*DEAN ACADEMICS*  
Prof. (Dr.) Sangita Banga



*DEAN RESEARCH*  
Prof. (Dr.) Pradeep Kumar Varshney



*DEAN STUDENTS' WELFARE*  
Prof. (Dr.) Shrutu Vashist



*PROCTOR*  
Prof. (Dr.) D K Sharma



*DEPUTY CONTROLLER OF EXAMINATION*  
Ms. Shefali Chopra

**DEANS OF FACULTIES**





*FACULTY OF ENGINEERING  
And FACULTY OF LAW*  
Prof. (Dr.) Sangita Banga



*FACULTY OF APPLIED SCIENCES*  
Prof. (Dr.) Pradeep Kumar Varshney



*FACULTY OF MANAGEMENT & COMMERCE*  
Prof. (Dr.) Parul Jhajharia



*FACULTY OF EDUCATION & HUMANITIES*  
Prof. (Dr.) Babita Parashar



*Director Law*

Mr. Ajay Thomas (w.e.f -20<sup>th</sup> January 2020 – 31<sup>st</sup> Dec 2020)  
Dr. Parul Jhajharia- Dean Law (w.e.f- 13<sup>th</sup> Jan 2021- 30<sup>th</sup> June 2021)

## **1.6 GOVERNANCE**

### **1.6.1 Governing Body**

The Governing body is the highest decision-making authority of the University. All the movable and immovable property of the University vests in it. The Governing Body provides general superintendence and direction to the University and in particular, regulates and controls the functioning of the University in accordance with the provisions of the applicable Acts, Statutes, Ordinances, Rules, Regulations, Notifications and Orders etc. In academic year 2020-21, the Governing Body met two times in virtual mode i.e. on 30th September, 2020 and 04<sup>th</sup> March, 2021.

#### **Members**

- 1) Dr. Prashant Bhalla, Chancellor/Chairman
- 2) Dr. Amit Bhalla, Vice President, MREI
- 3) Prof. I.K. Bhat, Vice Chancellor
- 4) Ms. Anita Chaudhary, IAS (Retd.) Former Secretary, GOI
- 5) Dr. Shalini Tuli, Associate Professor, Govt. College ( Govt. Nominee)
- 6) Col. (Retd.) V.K. Gaur, Advisor, MREI
- 7) Dr. M.M. Kathuria, Trustee, UET
- 8) Dr. N.C Wadhwa, DG, MREI
- 9) Prof. Sanjay Srivastava, MD MREI & VC MRIIRS
- 10) Sh. Amit Kumar, FCA

### **1.6.2. Board of Management**

The Board of Management (BoM) is the Chief Executive body of the University and works under the overall directions of the Governing Body. The role of BoM is to establish and monitor the achievement of the University's mission and Objectives. This includes, formulation and monitoring of academic standards, benchmarks and goals; establishment of academic and research units; supervision of the University's finances and budgetary processes; conducting institutional performance evaluations; compliance of the University's statutory and regulatory responsibilities; liaison with external agencies and evaluation of the performance of the senior University functionaries. In academic year 2020-21, the BOM met two times i.e. on 30<sup>th</sup> September,2020 and 04<sup>th</sup> March, 2021.

#### **Members**

- 1) Prof. I.K. Bhat, Vice Chancellor
- 2) Dr. Amit Bhalla, Vice President, MREI
- 3) Sh. Rajeev Kapoor, ED & Group HR-Head, Uno Minda
- 4) Dr. Shalini Tuli, Associate Professor -Govt. Nominee
- 5) Mr. Navdeep Chawla, President – FIA
- 6) Dr. M.M. Kathuria, Trustee, UET
- 7) Prof. Sangita Banga, Dean Academics
- 8) Prof. Parul Jhajharia, Dean-Faulty of Management and Commerce
- 9) Prof. Versha Vahini, HoD- Law
- 10) Dr. Babita Parashar, Dean – Faculty of Education & Humanities
- 11) Ms. Hanu Bhardwaj, HoD-Computer Science and Technology
- 12) Mr Ajay Thomas, Director-Faculty of Law (Special Invitee)

13) Prof. (Dr) Pradeep Varshney, Dean-Research (Special Invitee)

14) Dr Kameshwar Singh (Member Secretary)

### **1.6.3 Academic Council**

The Academic Council is the principal academic body of the University. It exercises general supervision over the academic policies of the University, subject to the provisions of the Act, Statutes, Ordinances of the University, The Academic Council is responsible for evaluation and approval of overall educational policy, academic degree programs, requirements for admission, academic honors and awards etc. at the University. In academic Year 2020-21 the Academic Council met two times in virtual mode i.e on 20<sup>th</sup> September, 2020 and 14<sup>th</sup> January, 2021.

#### **Members**

- 1) Prof. I.K. Bhatt, Vice Chancellor-Chairman
- 2) Prof. Raj Senani, Professor Emeritus, Netaji Subhash University of Technology
- 3) Prof. Anita Rastogi, Professor JMI, Delhi
- 4) Prof. Pilli Emmanuel, Associate Professor MNIT, Jaipur
- 5) Prof. Kanupriya Sachdeva, Professor MNIT, Jaipur
- 6) Prof. Devender Kumar, Professor Delhi Technological University, Delhi
- 7) Prof. G.S. Bajpayee, Professor & Registrar, NLU, Delhi
- 8) Sh. Ajay Kabra, Sr. Director – Agile Transformation Xebia India
- 9) Sh. Pradeep Kumar, Head Channels Sales, Altair Engineering
- 10) Dr. S.K. Goyal, Executive Director (SAARC)
- 11) Prof. (Dr.) S.K. Garg, Pro-VC, Delhi Technical University,
- 12) Prof. (Dr.) R.K. Singh, School of Economic, New Delhi
- 13) Prof. Sangita Banga, Dean Academics
- 14) Prof. Parul Jhahharia, Dean-Management and Commerce
- 15) Prof. Pardeep Kumar Varshney, Dean, Research & Applied Science
- 16) Dr. Babita Parashar, Dean-Faculty of Education and Humanities
- 17) Prof. Versha Vahini, HoD, Law
- 18) Prof. Shruti Vashisht, HoD-ECE & Dean, Students welfare
- 19) Ms. Hanu Bhardwaj, HoD, Computer Science Technology
- 20) Prof. Sujata Nayak, HoD, Mechanical Engineering
- 21) Dr. Sudhish Shukla, HoD, Chemistry
- 22) Dr. Rashee Singh, HoD, Education and Humanities
- 23) Dr. Deepa Arora, HoD, Mathematics
- 24) Dr. Jai Prakash, HoD-Physics
- 25) Prof. D.K. Sharma, Professor, Physics
- 26) Prof. Susmita Ray, Professor, Computer Science and Engineering
- 27) Dr. Pragati Chauhan, HoD, Management and Commerce
- 28) Ms. Meena Kapahi, Associate Professor, Chemistry
- 29) Dr. Jyoti Pruthi, Associate Professor, CSE
- 30) Dr. K. Singh, Registrar (Member-Secretary)

### **1.6.4. Finance Committee**

The Finance Committee is the principal financial body of the University. The main task of the Committee is to take care of the financial matters of the University. In academic year 2020-21, the Finance Committee met twice on 21<sup>st</sup> September, 2020 and 03<sup>rd</sup> March, 2021.

## **Members:-**

- 1) Prof (Dr.) I.K Bhat, Vice chancellor
- 2) Dr. Amit Bhalla, Vice President, MREI
- 3) Dr. M.M. Kathuria, Trustee, UET
- 4) Prof. Sangita Banga & Dean Academics
- 5) Sh. Amit Kumar, FCA
- 6) Dr. Kameshwar Singh, Registrar MRU
- 7) Sh. Santosh Kr Jha, Chief Finance & Accounts Officer, Member Secretary

## **1.7 Advisory Boards**

### **1.7.1 Advisory Board of Faculty of Law**

The Advisory Board is constituted to advise, guide, supervise and steer the holistic growth of faculty of law so as to take it to the greater heights. In the academic year 2020-21, the Advisory met on 17<sup>th</sup> October, 2020 in virtual mode.

#### **Members**

- 1) Hon'ble Mr. Justice R.C. Lahoti (Former CJI) Chairman
- 2) Hon'ble Mr. Justice Amitava Roy, Former Judge, SCI
- 3) Hon'ble Mr. Justice K.K. Lahoti (Former Acting Chief Justice, "H" High Court-MP)
- 4) Hon'ble Mr. Justice Kailash Gambhir (Former Judge, Hon'ble High Court of Delhi)
- 5) Hon'ble Mr. Justice Rajiv Bhalla (Former Judge, Hon'ble High Court of P&H)
- 6) Mr. Atmaram Nadkarni, (ASG, Government of India)
- 7) Mr. P. K. Malhotra, Former Law Secy., GOI
- 8) Mr. Arvind P. Datar, (Senior Counsel) Member
- 9) Mr. Ravindra Srivastav (Senior Counsel) Member
- 10) Mr. Parag Tripathi (Senior Counsel) Member
- 11) Mr. Gourab Banerji (Senior Counsel) Member
- 12) Mr. Sanjeev Sharma (Senior Counsel) Member
- 13) Mr. Gopal Jain (Senior Counsel) Member
- 14) Mr. Ashok Gupta (Senior Counsel) Member
- 15) Mr. Vinay Bhasin (Senior Counsel) Member
- 16) Mr. Jasbir Singh Bajaj (IAS) Member
- 17) Mr. R. K. Bajaj, Former Chief Commissioner – IT Member
- 18) Mr. Sudhir Sharma (Partner, Luthra & Luthra) Member
- 19) Mr. Anup Trehan (Partner, Access Law) Member
- 20) Mr. Shashank Garg (Partner, Advani & Co.) Convener
- 21) Mr. Divya Kant Lahoti, Special Invitee.

### **1.7.2 Advisory Board of Manav Rachna Centre for Peace & Sustainability**

The Advisory Board is constituted to advise, guide, supervise and steer the holistic growth of the Centre so as to take it to the greater heights. In the academic year 2020-21, the Advisory met once on 20<sup>th</sup> April, 2021.

## Members

- 1) Dr. Karan Singh (Indian politician, philanthropist and poet), Chairman
- 2) Dr. Prashant Bhalla, Chancellor
- 3) Dr. Amit Bhalla, Vice President, MREI
- 4) Hon'ble Mr. Justice R.C. Lahoti (Former CJI)
- 5) Swami Gyananandji, Spiritual Guru, GIEO, Gita & Shri Krishan Kripa Sewa Samiti
- 6) Dr. Ved Prakash, Former Chairman, University Grant Commission
- 7) Dr. Muzaffer Ahmad, Former Director General health Govt of J&K
- 8) Dr. Rajendra Shende, Chairman Terre Policy Centre
- 9) Dr. Meenakshee Gopinathan, Indian educationist, political scientist, writer
- 10) Dr. Anand Prakash, Professor & Head, Department of Psychology, Delhi University
- 11) Mr. Vishesh Gupta, Chairperson and Board of Directors of Bharat Soka Gakkai (BSG)
- 12) Dr. Jyotsna Singh, Director, Dara Shikoh Centre, J & K. Amar Mahal Museum & Library, J & K
- 13) Dr. Sushila Bhan, Chairperson, Institute for Peace Research & Action
- 14) Lt. Gen S. P. Kochhar, Retired Signal Officer in Chief- Indian Army
- 15) Mr. Anuj Sinha, Chairman of the Board at Network of Organisations for S&T Communication
- 16) Prof. Sanjay Srivastava, MD MREI & VC MRIIRS
- 17) Prof (Dr.) I.K Bhat, Vice chancellor
- 18) Dr. Geeta Thakur (Member Secretary)

### 1.8 Other Committees of the University

A well-organized University set up requires a lot to be monitored for smooth functioning and overall excellence such as attendance, feedback, course uploading to name only a few in this regard. Managing this entire gamut is not a one man show but it requires a collaborative effort from all staff members. University therefore works in a more decentralized manner through its various committees. These committees are empowered, have more autonomy and thus, help in quick decision making. All the committees are headed by coordinators with defined roles and responsibilities to perform.

<b>OTHER COMMITTEES</b>		
<b>Committee Name</b>	<b>Coordinator &amp; Team Members</b>	<b>Roles and Responsibility</b>
<b>Board of Discipline</b>	Sh. Ajit Katiyar, Associate Professor – Chairman	To consider the matter concerning maintenance of discipline among the students in the University
	HoD concerned and Hostel warden to which act of indiscipline pertain – Member	To enquire into the act of indiscipline or misconduct committed by a student(s) whenever such cases are referred to the Board of Discipline and to submit their findings, conclusions, and recommendations for the quantum of punishment under the provision of this

		ordinance.
	Dr. Somdutt Bhardwaj, Associate Professor – Member	To supervise and monitor the discipline ecosystem prevailing in the University
	Ms. Manpreet Kaur, Associate Professor – Member	To maintain liaison with the police authorities and concerned departments of the Government, neighboring institutions and the authorities of the University regarding maintenance of law and order in the University.
	Ms. Meenakshi Gupta, Assistant Professor – Member	To organize counseling session and liaisoning with parents of the guardians of the students.
	Dr. Shobha Srivastava, Deputy Registrar-Administrator – Member Secretary	To perform such other functions as may be assigned to it by the Vice Chancellor from time to time.
	Mr. A.K. Mishra, Sports Office and Manager Operations	
<b>Committee for Annual Report</b>	Prof. (Dr.) Parul Jhaharia, Dean Faculty of Management and Commerce – Chairperson	The committee shall function under overall supervision and patronage of the Dean Faculty of Management and Commerce and will be required to submit the Draft Annual Report within two months' time.
	Dr. Babita Parashar, Dean Faculty of Education & Humanities – Convenor	
	Prof. Shruti Vashisht, Dean - DSW – Member	
	Dr. Megha Mittal, Associate Professor – Member	
	Prof. Versha Vahini, HoD-Law – Member	
	Prof. Geeta Thakur, Prof. Education & Head-ASLI	
	Ms. Yogita Guputa, Asst. Professor – Member	

	Ms. Gaganjot Kaur, Asst. Professor – Member	
<b>University Level Complaint Committee</b>	Prof. Shruti Vashisht – Chairperson	Create and communicate a detailed policy.
	Prof. A.K. Gupta, - Member	Ensure awareness and orientation on the sexual harassment at work place
	Prof. Versha Vahini, - Member	Ensure complaint committee is trained in both skill and capacity.
	Ms. Hanu Bhardwaj, Associate Professor – Member	Prepare an annual report and report to the Vice Chancellor
	Mr. Sandeep Kumar, Associate Professor – Member	
	Dr. Archana Bhatia, Chairperson, Nari Uthan Shikshan Shashaktikaran – Member	
<b>Committee for Awarding Grace Marks</b>	Dean Academics – Chairperson	The committee shall function under overall supervision and patronage of the Dean Academics
	Dean Student Welfare – Member	
	Controller of Examination – Member	
	Dean Management – Member	
	Registrar - Member Secretary	
<b>Committee for Documents/Reports and processes for updation of data</b>	Ms. Meena Kapahi, Associate Professor-Chemistry – Coordinator	Team Assist to Dean Academics in Processing of Academic Documents / Reports as well as in developing system and processes for updation of data
	Dr. Deepa Arora, Associate Professor & Head Maths - Co-Coordinator	
	Dr. Roopa Rani, Asst. Professor-Chemistry – Member	
	Dr. Ananna Bardhan, Asst. Professor-Physics – Member	
	Dr. Manpreet Kaur, Associate Professor-CST – Member	
	Dr. Seema Sharma, Asst. Professor - Faculty of Education & Humanities – Member	
	Ms. Priyanka Maderna, Asst. Professor-law – Member	

	Dr. Pooja Kapoor, Associate Professor- Management – Member	
	Dr. Ankita Pandey, Asst. Professor- Maths – Member	
	Mr. Bhanu, Asst. Professor-ECE – Member	
	Mr. Gianender, Asst. Professor-ME – Member	
	Mr. Ram Chatterjee, Asst. Professor- CST – Member	
<b>Website Committee</b>	Dr. Mrinal Pandey, Associate Professor- CST - Coordinator	<b>The Website Coordinator Will:</b>
	Ms. Garima Grover, Asst. Professor- ECE – Member	(1) Finalize Website Activity Calendar. (2) Managing Content (3) Maintaining Web Design (4) Maintaining continuity of themes, layout (5) Streamlining navigation (6) Updating contents (7) Ask from the Dean's HoD's for their respective areas contents and events information (8) Communicate with the Web Team to keep apprised of developments (9) Coordinating with the team members reviewing website contents time to time to match with the updations in the university information database (11) Give consolidated feedback to Dean's and HoD's
	Ms. Gaganjot Kaur, Asst. Professor- CST – Member	
	Mr. Mandeep Bhadana, Asst. Professor- ME – Member	<b>The Website Team Members will:</b>
	Ms. Rashi Banerji, Assistant Professor, Member	
	Dr. Kiran Gupta, Associate Professor- Faculty of Education & Humanities – Member	(1) Reviewing the specific portions of website for its contents accuracy (2) To be responsible for providing the data specific to the particular area and the formats in



	Dr. Ankita Pandey, Asst. Professor-Maths – Member	which it should be updated on the website (3) Participate in managing the contents and deciding the layout of the website (4) Participate in content writing for specific areas (5) Participate in website meetings (6) Participate in coordinating and communicating with other departments in fetching the information and data.
	Dr. Jaya Tuteja, Asst. Professor-Chemistry – Member	
<b>Purchase Committee</b>	Dr. Shobha Srivastava, Deputy Registrar (Admin) – Chairman	(1)To collect and analyze quotations from the Vendors (2)To complete documentation work relating to purchase (3) Ensure transparency and fairness in the procurement (4) Placing the order to vendor for supply of the stores (5) To get the entry of the stores in the Stock Register of the University
	Ms. Shefali Chopra, Deputy Registrar (R & S) – Member	
	Mr. Bharat Bhushan, (Admin) – Member	
<b>Committee for Security Lapses &amp; Losses</b>	Prof. Versha Vahini, Professor – Chairperson	
	Mr. Satish Arora, CVO – Member	
	Dr. Vikram Sharma, Library – Member	
	Mr. A.K. Mishra, Sports Officer – Member	
	Dr. Shobha Srivastava, Deputy Registrar - Member Secretary	
<b>Women Cell</b>	Prof. Shruti Vashisht – Chairperson	(1) The complaint committee shall look into all the cases relating to sexual harassment of students/employees working in the University, investigate the same as per procedure laid down in the act and rules made therein and make recommendations to the competent authority for decision. (2) The complaint committee shall
	Prof. Sujata Nayak, HoD-Mechanical – Member	
	Dr. Babita Parashar, Dean Faculty of Education & Humanities – Member	
	Dr. Parneeta Dhallwal, Associate Professor – Member	

	Dr. Megha Mittal, Associate Professor – Member	ensure complete confidentially and shall not disclose the contents of the complaint, identity and address of complainant, respondent and witness and information pertaining to conciliatory/ inquiry proceedings or recommendations of the committee into the complaint to anyone as it is totally prohibited under the provisions of the said act.
	Ms. Priyanka Maderna, Asst. Professor-law – Member	
	Dr. Manpreet Kaur, Associate Professor-CST – Member	
	Dr. Deepa Arora, Associate Professor & Head Maths – Member	
<b>Institutional Grievance Redressal Committee</b>	<ol style="list-style-type: none"> <li>1. Dr. Sangita Banga, Chairperson</li> <li>2. Dr. Shruti Vashist, Member</li> <li>3. Dr. D. K. Sharma, Professor, Physics, Member</li> <li>4. Sh. Ajit Katiyar, Member</li> <li>5. Student Representative by H'VC</li> </ol>	To look into grievances of the students already enrolled with the University as well as those seeking admission to the University. The grievance as prescribed in 3(h) of the regulation which do not relate to any Academic Department of the University shall be redressed by the Committee.
<b>University Level Anti Ragging Committee</b>	<ol style="list-style-type: none"> <li>1. Dr. D. K. Sharma, Professor, Physics,</li> <li>2. Dr. Shruti Vashist, HoD, ECE, &amp; Dean (DSW)</li> <li>3. Dr. Parul Jhahharia, Dean FMC</li> <li>4. Prof. Sujata Nayak, HoD, ME,</li> <li>5. Mr. Hanu Bharadwaj, HoD, CST</li> <li>6. Jai Prakash, HoD, Physics,</li> <li>7. Dr. Deepa Arora, HoD, Maths,</li> <li>8. Dr. S. K. Shukla, HoD, Chemistry,</li> <li>9. Dr. Rashee Singh, HoD, Education</li> <li>10. Dr. Versha Vahini, HoD, Law</li> <li>11. Dr. Kameshwar Singh, Registrar</li> </ol>	This ARC is empowered to take action as per the provisions and envisaged in the rule 9.1 of UGC regulations 2009 on curbing the menace of ragging in higher education institutions.
<b>University Level Anti Ragging Squad</b>	<ol style="list-style-type: none"> <li>1. Prof. Haider Abbas, Professor, Physics,</li> <li>2. Dr. Sachin Lakra, Assoct. Professor, CSE</li> <li>3. Dr. Parneeta Dhaliwal, Assoct. Professor, CSE</li> <li>4. Dr. Subodh Saluja, Assoct. Professor, Mgmt</li> <li>5. Mr. Joginder Singh, Assoct.</li> </ol>	<ol style="list-style-type: none"> <li>1. ARS will make surprised raise on hostel and other places and will be empowered to inspect such places.</li> <li>2. ARS will conduct on the spot enquiry into any incident of ragging referred by the Head/Faculty/Staff/Students/</li> </ol>

	<p>Professor, ME</p> <p>6. Dr. Aditya Sharma, Assoct. Professor, Physics,</p> <p>7. Dr. Ajay Bhatia, Asstt. Profssor, Law</p> <p>8. Dr. Meena Kapahi, Assoct. Professor, Chemistry</p> <p>9. Dr. Arpit Sand Assoct. Professor, Chemistry</p> <p>10. Dr. S. K. Bose, Assoct. Professor, Law</p> <p>11. Dr. Akhilesh K. Diwedi, Asstt. Professor, Education</p> <p>12. Dr. Sobha Sivastava, Dy. Registrar</p> <p>13. Mr. A. K. Mishra, Sports Officer</p>	<p>Parents/Gaurdian.</p> <p>3. Under the clause (a) Rule 9.1 of the UGC regulation on curbing the menace of ragging in higher educational Institutions 2009.</p>
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## CHAPTER: 2

### ACADEMICS AT MANAV RACHNA UNIVERSITY

Manav Rachna University, evolved in the year 2014 under the Haryana State Legislature Act No. 26 of 2014 from erstwhile Manav Rachna College of Engineering (MRCE), is flourishing with the gradual passage of time. During the last seven years, University has been abuzz with activities and has surged forward in every respect. University has strengthened its academic profile by introducing contemporary, innovative and need-based programs both at UG and PG level. In particular, the University introduced interdisciplinary courses in engineering, applied sciences and integrated programs in Education, law and humanities, to name but a few.

All the Engineering Programs offered under the Faculty of Engineering, are approved by AICTE whereas NCTE has approved all the programs offered by the Faculty of Education & Humanities. The law programs offered by the Faculty of Law are approved and recognized by the Bar Council of India.

Manav Rachna University is bestowed with QS I-Gauge Gold rating. QS I-Gauge has certified Manav Rachna University as a globally recognized and benchmarked higher education institution offering online education in appreciation of the digital shift and readiness level of the University towards online education during the global pandemic. Manav Rachna University is among the Top 3 emerging Engineering Institutes of the country as per Times Engineering Institutes Survey 2020. It is also the top most promising and emerging institute for Placement and Research Capability.

The University is declared as Nodal Centre for Virtual Labs, in association with IIT, Delhi and is a local chapter of NPTEL. The Faculty of Law, MRU is a Foundation Member of the LSAC Global Law Alliance – a group of colleges and universities that provide the highest quality legal education to India's future lawyers.

#### 2.1 Faculties of the University

- 2.1.1. Faculty of Applied Sciences
- 2.1.2. Faculty of Engineering
- 2.1.3. Faculty of Management and Commerce
- 2.1.4. Faculty of Education and Humanities
- 2.1.5. Faculty of Law

Under the five Faculties, there exist different departments offering Undergraduate; Post Graduate and Doctoral Programs.

**2.1.1 Faculty of Applied Sciences:** Departments & Programs offered are listed as under:

##### 2.1.1.1 Department of Chemistry:

- B.Sc. (Hons.) (3 year): Chemistry
- M.Sc. (2 year): Chemistry
- Ph.D

##### 2.1.1.2 Department of Mathematics

- B.Sc. (Hons.) (3 year): Mathematics
- M.Sc. (2 year): Mathematics
- Ph.D

#### 2.1.1.3 Department of Physics.

- B.Sc. (Hons.) (3 year): Physics
- M.Sc. (2 year): Physics
- Ph.D

**2.1.2. Faculty of Engineering:** Various Departments & Programs offered are listed as under:

#### 2.1.2.1 Department of Computer Science and Technology

- B.Tech. (4 year) / B.Tech. Lateral Entry (3 year) Computer Science & Engineering
- B.Tech. (4 year) with Specialisation in Artificial Intelligence and Machine Learning in association with Xebia.
- B.Tech. (4 year) with Specialisation in Cloud, DevOp's & Automation in association with Xebia
- B.Tech. (4 year) with Specialisation in Cyber Security & Threat Intelligence in association with Quick Heal
- M.Tech. (2 year) Computer Engineering
- Ph.D

#### 2.1.2.2 Department of Electronics and Communication Engineering

- B.Tech. (4 year)/ ateral Entry (3 year) Electronics & Communication Engineering
- B.Tech. (4 year) with Specialisation in VLSI Design & Verification in association with True Chip
- B.Tech. (4 years) with speialisation in Healthcare Technology in association with Sahai Lab)
- M.Tech. (2 year) Electronics & Communication Engineering with specialization in Embedded System and VLSI
- Ph.D

#### 2.1.2.3 Department of Mechanical Engineering

- B.Tech. (4year)/ Lateral Entry (3 year) Mechanical Engineering
- B.Tech. (4year) with specialization in Smart Manufacturing and Automation
- M.Tech. (2 year): Mechanical Engineering
- Ph.D

**2.1.3. Faculty of Management & Commerce:** Programmes offered by Department of Management & Commerce are listed as under:

#### 2.1.3.1 Department of Management & Commerce

- Bachelor of Business Administration Finance & Accounts (3 Years)
- Bachelor of Business Administration Entrepreneurship & Family Business (3 Years)
- Bachelor of Business Administration Health Care Management, (3 Years) supported by leading hospitals of Delhi & NCR

- Bachelor of Business Administration -Operations Management with Specialization in Supply Chain Management, Logistics & Projects Management, (3 Years)
- Ph.D.

**2.1.4. Faculty of Education and Humanities:** Department & the programs offered under the Faculty are as follows:

#### **2.1.4.1 Department of Education and Humanities**

- Integrated B.Sc. B.Ed (4 year)
- Integrated B.A. B.Ed (4 year)
- B.Ed. (2 year)
- B.Ed. Special Education (Learning Disability) (2 year)
- Ph.D

**2.1.5. Faculty of Law:** Department & the Programms offered under the Faculty of Law are listed as under;

#### **2.1.5.1 Department of Law**

- Integrated B.A. LLB (Hons.) (5 year)
- Integrated B.B.A. LLB (Hons.) (5 year)
- Integrated B.Com. LLB (Hons.) (5 year)
- LL.M (1 year)
- LL.M (2 year) (Part Time)
- Ph.D.

### **2.2 Faculty Members at the University**

<b>Sr. No</b>	<b>Employee Name</b>	<b>Department</b>	<b>Designation</b>
1.	Dr. Pradeep K Varshney	Chemistry	Professor & Dean-Research
2.	Dr. Sangita Banga	Chemistry	Professor & Dean-Academics
3.	Dr. Meena Kapahi	Chemistry	Professor
4.	Dr. Megha Bansal	Chemistry	Professor
5.	Dr. Sudhish Kumar Shukla	Chemistry	Professor
6.	Dr. Arpit Sand	Chemistry	Associate Professor
7.	Dr. Priti Gupta	Chemistry	Assistant Professor
8.	Dr. Ekta Rawat	Chemistry	Assistant Professor
9.	Dr. Roopa Rani	Chemistry	Assistant Professor
10.	Dr. Vinayak Vandan Pathak	Chemistry	Assistant Professor
11.	Dr. Jaya Tuteja	Chemistry	Assistant Professor
12.	Dr. Shilpa Sharma	Chemistry	Assistant Professor
13.	Dr. Harsha Devnani	Chemistry	Assistant Professor
14.	Dr. Jayamani	Chemistry	Assistant Professor
15.	Dr. Sachin Lakra	CST	Professor
16.	Dr. Jyoti Pruthi	CST	Professor
17.	Dr. Parneeta Dhaliwal	CST	Professor
18.	Dr. Susmita Ray	CST	Professor
19.	Hanu Bhardwaj	CST	Associate Professor

20.	Dr. Prinima	CST	Associate Professor
21.	Dr. Manpreet Kaur	CST	Associate Professor
22.	Dr. Hardeo Kumar Thakur	CST	Associate Professor
23.	Dr. Sanjay Singh	CST	Associate Professor
24.	Bharti Jha	CST	Assistant Professor
25.	Agha Imran Hussain	CST	Assistant Professor
26.	Neelu Chaudhary	CST	Assistant Professor
27.	Nikita Taneja	CST	Assistant Professor
28.	Ram Chatterjee	CST	Assistant Professor
29.	Deepanshi Gupta	CST	Assistant Professor
30.	Sarika	CST	Assistant Professor
31.	Priyanka Gupta	CST	Assistant Professor
32.	Manoj Kumar	CST	Assistant Professor
33.	Urmila Paliania	CST	Assistant Professor
34.	Narender	CST	Assistant Professor
35.	Meena Chaudhary	CST	Assistant Professor
36.	Gunjan Chandwani	CST	Assistant Professor
37.	Mamta Arora	CST	Assistant Professor
38.	Riya Sapra	CST	Assistant Professor
39.	Anup Singh Kushwaha	CST	Assistant Professor
40.	Shailja Gupta	CST	Assistant Professor
41.	Ankur Kumar Aggarwal	CST	Assistant Professor
42.	Gaganjot Kaur	CST	Assistant Professor
43.	Anu Priya Sharma	CST	Assistant Professor
44.	Shreya Malhotra	CST	Assistant Professor
45.	Sanjay Kumar	CST	Assistant Professor
46.	Alpana	CST	Assistant Professor
47.	Chandni Maggoo	CST	Assistant Professor
48.	Dr. Shruti Vashist	ECE	Professor
49.	Dr. Charu Pathak	ECE	Professor
50.	Dr. Meenakshi Gupta	ECE	Associate Professor
51.	Lokesh Bhardwaj	ECE	Assistant Professor
52.	Dr. Yogita Gupta	ECE	Assistant Professor
53.	Dr. K. Deepa	ECE	Assistant Professor
54.	Dr. Nitika	ECE	Assistant Professor
55.	Bhanu Pratap Chaudhary	ECE	Assistant Professor
56.	Vijay Kumar Gill	ECE	Assistant Professor
57.	Dr. Niharika Thakur	ECE	Assistant Professor
58.	Dr. Geeta R. Thakur	Education	Professor & Head Staff College
59.	Dr. Babita Sharma	Education	Associate Professor & Dean
60.	Dr. Rashee Singh	Education	Associate Professor
61.	Dr. Kiran Gupta	Education	Associate Professor
62.	Ridhi Khanna	Education	Assistant Professor
63.	Dr. Savita Sharma	Education	Assistant Professor
64.	Dr. Ritu Sharma	Education	Assistant Professor
65.	Sharv Datt Anand	Education	Assistant Professor

66.	Chandra Prakash Singh	Education	Assistant Professor
67.	Dr. Pooja Parmar	Education	Assistant Professor
68.	R.K Sanaiyama	Education	Assistant Professor
69.	Dr. Akhilesh Kumar Dwivedi	Humanities	Assistant Professor
70.	Dr. Chhavi Kulshrestha	Humanities	Assistant Professor
71.	Dr. Versha Vahini	Law	Professor
72.	Dr. Tarundeep Kaur	Law	Associate Professor
73.	Dr. Somdutt Bhardwaj	Law	Associate Professor
74.	Dr. Saratendu Kumar Bose	Law	Associate Professor
75.	Aditi Choudhary	Law	Assistant Professor
76.	Priyanka Maderna	Law	Assistant Professor
77.	Sakshi Bahuguna	Law	Assistant Professor
78.	Amit Kumar	Law	Assistant Professor
79.	Dr. Ajay Bhatia	Law	Assistant Professor
80.	Ashima Saxena	Law	Assistant Professor
81.	Pooja Trehan	Law	Assistant Professor
82.	Shashi Kant Yadav	Law	Assistant Professor
83.	Shobhit Mohan	Law	Assistant Professor
84.	Shivam Gaur	Law	Assistant Professor
85.	Simran Singh	Law	Assistant Professor
86.	Garima Chawla	Law	Assistant Professor
87.	Sampriti Phukan	Law	Assistant Professor
88.	Akansha Ghose	Law	Assistant Professor
89.	Dr. Sujata Nayak	M.E	Professor
90.	Ajit	M.E	Associate Professor
91.	Sanjay Taneja	M.E	Associate Professor
92.	Dr. Joginder Singh	M.E	Associate Professor
93.	Jai Prakash Sharma	M.E	Assistant Professor
94.	Piyush Mahendru	M.E	Assistant Professor
95.	Gianender	M.E	Assistant Professor
96.	Nazish Ahmad Shamsi	M.E	Assistant Professor
97.	Prashant Bhardwaj	M.E	Assistant Professor
98.	Pradeep Kumar Mouria	M.E	Assistant Professor
99.	Mandeep Bhadana	M.E	Assistant Professor
100.	Sudhir Singh	M.E	Assistant Professor
101.	Dr. Parul Jhajharia	Management	Professor & Dean
102.	Dr. Pragati Chauhan	Management	Associate Professor
103.	Dr. Pooja Kapoor	Management	Associate Professor
104.	Dr. Manmeet Nag	Management	Associate Professor
105.	Dr. Subodh Saluja	Management	Associate Professor
106.	Dr. Animesh Singh	Management	Associate Professor
107.	Dr. Rashi Banerji	Management	Assistant Professor
108.	Srishti Bathla	Management	Assistant Professor
109.	Dr. Priyanka Singh	Management	Assistant Professor
110.	Vandna Bhat	Management	Assistant Professor
111.	Dr. Ashish Pandey	Management	Assistant Professor



112	Dr. Yogendra Kumar Sharma	Maths	Professor
113	Dr. Deepa Arora-HoD	Maths	Associate Professor
114	Dr. Dinesh Tripathi	Maths	Associate Professor
115	Dr. Aparna Vyas	Maths	Associate Professor
116	Seema Aggarwal	Maths	Assistant Professor
117	Savita Saini	Maths	Assistant Professor
118	Ramapati Maurya	Maths	Assistant Professor
119	Dr. Advin Masih	Maths	Assistant Professor
120	Dr. Ruchi Gupta	Maths	Assistant Professor
121	Dr. Ankita Gaur	Maths	Assistant Professor
122	Dr. Kalpana Shukla	Maths	Assistant Professor
123	Dr. Kamlesh Kumar	Maths	Assistant Professor
124	Dr. Bhawna Singla	Maths	Assistant Professor
125	Dr. Dinesh Kumar Sharma	Physics	Professor
126	Dr. Haider Abbas	Physics	Professor
127	Dr. Jai Prakash	Physics	Associate Professor
128	Dr. Sandeep Kumar	Physics	Associate Professor
129	Dr. Shiv Kumar Dixit	Physics	Assistant Professor
130	Dr. Deepti Maikhuri	Physics	Assistant Professor
131	Dr. Anshuman Sahai	Physics	Assistant Professor
132	Dr. Ananna Bardhan	Physics	Assistant Professor
133	Dr. Aditya Sharma	Physics	Assistant Professor

## 2.3 Students

### 2.3.1 Enrolment of Students

Expansion of any institution can be gauged by the number of students enrolled in its programs. The increase in number of enrolment of students, year after year, indicates the popularity of University programmes.

<b>Programme/BRANCH Name</b>	<b>Total No. Of students</b>
<b>B.Tech/CSE, ME, ECE</b>	<b>916</b>
<b>B.Sc (H)/ Physics, Chemistry, Mathematics</b>	<b>106</b>
<b>BBA/FAA, EFB, OM, HCM</b>	<b>218</b>
<b>Law/BBA-LLB, B.Com-LLB, B.A-LLB</b>	<b>297</b>
<b>Education/B.Ed, B.Sc-B.Ed, B.A-Ed</b>	<b>232</b>
<b>Total Students (UG)</b>	<b>1769</b>
<b>Total Students (PG) (M.Tech &amp; MSc.)</b>	<b>62</b>
<b>Total Students PhD.</b>	<b>154</b>

## 2.4 Scholarship Policy

In the year 2020-21, a substantial sum of more than two crores was awarded as scholarship. Scholarship policy of University encourages a good number of students every year and kindles the spirit of consistent performance. Elaborative policy details are as follows:

**2.4.1 Merit Scholarship:** Aimed at promoting meritorious students, scholarship includes tuition fee waiver and is awarded to the students of UG/ PG Programmes) on the basis of marks/CGPA in the qualifying examination as per following scale, however the students are required to pay other fees as applicable to the programme concerned.

### UG Programmes

90.00% & above	100%	Tuition Fee waiver
85.00% above but below 90.00%	50%	Tuition Fee waiver
80.00% above but below 85.00%	25%	Tuition Fee waiver
<b>PG Programmes</b>		
85.00% & above	100%	Tuition Fee waiver
75.00% above but below 80.00%	50%	Tuition Fee waiver
70.00% above but below 75.00%	25%	Tuition Fee waiver

### 2.4.2 Merit cum Means Scholarship

MRU offers Scholarship based on merit cum means, to the candidates admitted under reservation for Haryana Candidates. Scheme shall be applicable to all Undergraduate and Post Graduate Programs. The Scheme is applicable to all students whose parents have annual income up to Rs. 2.80 Lac from all sources. Under the scheme, the students shall be given fee waiver limited to the tuition fee as per the following scale. Candidates are required to pay other fee as applicable to the programme concerned.

- One fifth of the twenty five percent shall be granted full tuition fee concession,
- Two fifth of the twenty five percent shall be granted fifty percent fee concession,
- The balance two fifth of the twenty five percent shall be granted twenty five percent fee concession.

### 2.4.3 Merit Scholarship to Semester/Branch Toppers

In order to motivate the students for better and sustained academic performance, MRU offers 'Merit Scholarship to Semester/ Branch Toppers' for students bagging 1st, 2nd and 3rd positions in the Odd & Even semester exams (Based on the amalgamated SGPA / CGPA) every year for each programme being run at MRU, as under:

a) First position	25% of Tuition Fee or Rs.25,000/- whichever is less
b) Second Position	15% of Tuition Fee or Rs.15,000/- whichever is less
c)Third Position	10% of Tuition Fee or Rs.10,000/- whichever is less

The following are the guidelines for granting these Merit Scholarships:

1. Any programme must have strength of 90 or more in semester exam to qualify for first, second and third position scholarship, otherwise only a solitary topper shall be given a solitary first position scholarship.
2. If the strength of a course is 10 or less no scholarship will be awarded for that course.
3. A student shall be eligible to benefit for tuition fee waiver only from one source only.

#### 2.4.4 Fee Concession to MREI Employees for pursuing Ph.D. Programs

A). Faculty members working with MREI for three or more year's duration are entitled for a fee concession while they enroll for their career enhancement and join the doctoral program. It is done to promote a culture of research in the organization and honour the association of employ with MREI.

**B). Scholarship to MREI Students:** Students completing their School/UG/PG programs from MREI and enrolling in MRU for further studies are also awarded scholarship with an objective to promoting the trust in the parent organization. They are eligible to receive 10% tuition fee waiver (Limiting upto maximum of Rs. 10,000/ per year.

**Manav Rachna Student Staff Alumni Welfare Fund:** Since merit cum means scholarships are awarded to Haryana domicile holders with annual income less than 2.8 lac, a provision of relief through scholarships for other needy cases is there under MR Student Staff Alumni Welfare fund.

#### 2.4.5 Scholarships Data:

Type of Scholarship	No.of students	Amount
Tuition Fee Waiver	324	14309125
Merit Cum Means	33	1637125
Manav Rachna Student Staff Alumni Welfare Fund & Others	159	6100217
MREI Student	3	15,000
Concession to Ph.D students on the basis of Length of Service for MREI Employees	28	4508333
<b>Total</b>	<b>547</b>	<b>26569800</b>

## CHAPTER – 3

### Research, Innovation and Incubation

#### **3.1 Research and Publications**

The Research is imperative for the inclusive intellectual growth. It is often the first critical step in innovation and drives technological improvements which lead to Science and Technology (S&T) growth. MRU is continuously encouraging, supporting and promoting R&D activities by imparting training and workshops.

The institute is actively pursuing advanced research programs which are focused towards advancement of human knowledge and development of society. Research efforts are directed towards solving complex problems, delivering social benefits and driving economic prosperity, nationally as well as globally. The R&D is responsible for the development and implementation of research strategy of the University. It assists to formulate strategic planning for research and executing the plan. It Co-ordinates academic management of the research of the institute as a whole, encourages faculty and departments to increase research grant from different funding organization in India, encourages national and international Collaborations.

MRU facilitates different research clusters, which has been designed to seek and derive innovations from industrial clusters, village clusters, slum cluster and educational clusters. It is an endeavor to harness the passion and dedication of bright young minds with some of the major challenges of India and civil society. We strive to stream relevant ideas and programmes stemming from the above mandate into its learning and research programmes.

Faculties and students of Manav Rachna University are actively involved in research and publish research papers, books, book chapters & patent in national and international referred journals, Scopus indexed conference proceedings & publishers. A list of publications of MRU [2021-2022] in journals, conferences, patent, books & book chapters are listed below:

<b>Summary of Research Publication Data</b>		
<b>Category</b>	<b>Numbers</b>	<b>Details</b>
No. of Publication in Journals	74	Annexure-3.1
No. of Publication in Conference	24	Annexure-3.2
No. of Patents	03	Annexure-3.3
No. of Books /Book Chapters	10	Annexure-3.4
Seminar, Conference & Workshop Organized	47	Annexure-3.5
Consultancy	32	Annexure-3.6
Expert Talk Organized	02	Annexure-3.7
Summer Training and Internship	--	Annexure-4.1

### 3.2 Research & Development Events organized

- The Physics Department organized the Webinar cum-Workshop on X-ray scattering and its applications in Nano & Material Science Research. July 2, 2020.
- The Chemistry Department organized Workshop on “Virtual Chemistry: Innovative Solutions” on 23rd July 2020. The workshop focused on making online teaching the learning process of Chemistry in an effective manner.
- The CST department organized a webinar on “Python Programming” on 1st July 2020 by Mr. Ashish Pande, in collaboration with Xebia for 2nd year students of B.Tech. CSE specialization in DSML.
- The CST department organized a webinar on “Modern Web and Mobile Framework” on 3rd July 2020 by Mr.Santosh Pahariya, in collaboration with Xebia for 3rd year students of B.Tech. CSE specialization in DTE.
- The CST department organized a webinar on ‘Agile Software Development’ in collaboration with Xebia, for the 2nd year students of B.Tech. CSE with specialization in DTE. The expert for the session was Mr. Ajay R. Kabra, Senior Agile Director, Xebia.
- The CST department organized a two days International Conference **on Computational Intelligence in Analytics and Information System** CIAIS 2021 in Hybrid mode with the main focus on the empirical, theoretical and application prospects of computational intelligence in Data Science, Information Retrieval and Communication systems on 2-3 April 2021. The Conference aims to provide an International platform for dynamic researchers and experts from both industry and academia, to share their research work in the domain of computational intelligence in the various applications areas.
- The chemistry department organized a workshop on “Innovative Strategies in Teaching and Learning Process” for MRIS faculty members.
- The Mathematics Department organized a Workshop on Nonlinear Optimization, Variational Inequalities and Artificial Intelligence from March 22<sup>nd</sup>–26<sup>th</sup>, 2021 in online mode. The workshop was designed to provide a platform to understand and apply different mathematical and computational approaches for solving optimization problems, comparison & connection among the existing and new solution methods, detail analysis using algorithms and its applications. The workshop was delivered by 6 Resource persons from IIT’s, University of Delhi, NIT’s & MRU.
- The Physics Department organized the Fifth-webinar entitled “Applications of X-ray absorption spectroscopy in Nano-material research” on 22rd April 2021.
- The Mechanical Engineering Department organised a workshop on Robo-analyzer Software in Collaboration with ECE Dept. on 5th April, 2021.
- The Mechanical Engineering Department organised 2 days training programme for ME faculty members and students by CYPE Software on Introduction to BIM software (Architecture, MEP, and Thermal Analysis) on 14<sup>th</sup> April and 21<sup>st</sup> April, 2021.
- The Mechanical Engineering Department organized a webinar on “Introduction to Robotics and Automation” in collaboration with ECE Department on 22nd April 2021.
- The Department of electronics and communications engineering organised a workshop on “Introduction to Robotics and Automation” by Mr. Vijay Gill and Mr.JP Sharma on 22<sup>nd</sup> April 2021.

- The Department of electronics and communications engineering organised a workshop on “Automation in Railways using IOT” by Engr. Pawan Kumar, Sr. Network Specialist, Centre for Railway Information Systems, Northern Railways and Director, Singh Embedded Solutions, New Delhi on 5<sup>th</sup> May 2021.

### **3.3 Research Endeavors, Innovation & Incubation**

Manav Rachna University is committed to vision of our Founder Dr. O. P. Bhalla having dream to boost research, innovation and entrepreneurship activities that can benefit the faculty and students to develop entrepreneurship attitude and aptitude, for enterprise set up. MRU is determined to progress itself into foundation of excellence in education and research in compliance with the contemporary and future needs of India through meaningful education, quality research and technological innovations for the industrial growth of the country. In addition to offering formal undergraduate and post-graduate programs, it actively encourages its faculty and students to undertake in-house and sponsored research and consultancy projects in order to strengthen the research profile of the institutions. Presently MRU is actively engaged in research in several areas of Engineering, Manufacturing, Management, Basic and Applied Sciences and Energy, Environment, and Law through research and Innovation Clusters and Centre of Excellence. These are providing technology driven support to the students, to help them in incubating business models as startups or spin offs to become student entrepreneurs for working towards Government of India policy of “Make in India”, “Stand up India” and “Startup India”.

**Some of the major events organized / attended are summarized below:-**

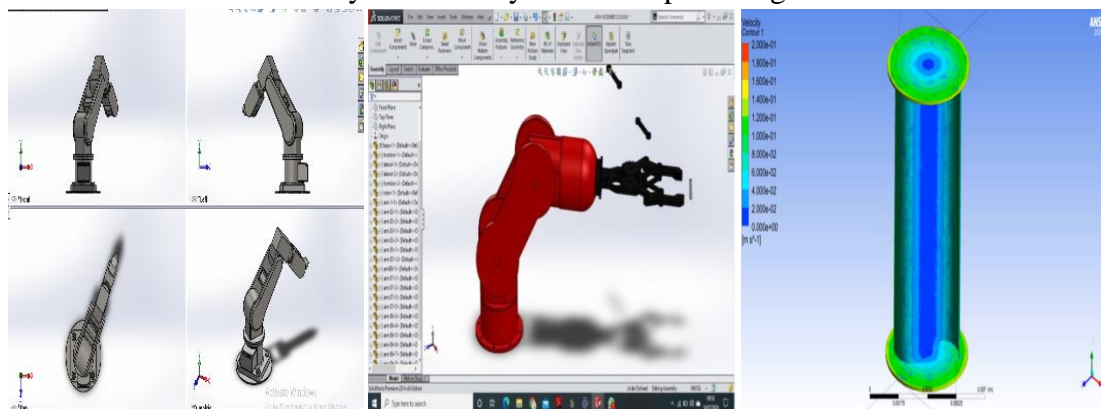
- **NISP Workshops** MRU nominated Prof. (Dr.) Pradeep K. Varshney (Dean Research of the University) as Ambassador for the implementation of National Innovation and Startup Policy (NISP) at the university level. Dr. Varshney attended NISP Orientation cum training session which was organized by MHRD’s Innovation Cell and the training was conducted by Mr. Dipan Sahu (Asst. Innovation Director and National Coordinator of NISP). Afterwards Dr. Varshney took the initiative of forming the NISP committee at the University level and formulating the Innovation and Entrepreneurship policy at University level to facilitate the implementation of NISP. Such sessions were conducted over the months of August to October 2020.
- **Business Idea Generation Workshop IIC** MRU, under the aegis of MHRD Innovation Cell organized a Business Idea Generation workshop on 4th March 2021. The Initiative was undertaken by CSE Semester-7 students under the mentorship of Dr. Manmeet Bali Nag (Associate Professor, Department of Management, MRU & Innovation Ambassador IIC). The aim of the workshop was to sensitize and educate students towards innovation & entrepreneurship. Students had undertaken survey-based research towards opportunity, observation, identification, Ideation & value proposition. They duly created the Business Model Canvas (BMC) for the above. Blueprints and plausible prototypes were created with futuristic implications. Five teams presented their ideas based on Principles of Sentiment analysis, Neuro Linguistic Programming, AI, Robotics, Cloud computing & Data Analysis.

- **Prototype Validation and Converting Prototype to Startup** IIC MRU organized a webinar on “Prototype Validation and Converting Prototype to Startup” on 26th June, 2021. The talk was delivered by Dean Research Prof. Dr. Pradeep K. Varshney. The seven stages of startup: Ideation, Prototype, MVP, Product Market-Fit, Scaling, Potential Profitability and Cash Cow, were discussed. He further explained the significance of Minimum Viable Product (MVP), need and process of prototype validation, success factors, funding opportunities and National Innovation and Startup Policy (NISP) of MRU to motivate student entrepreneurs to establish startups. Further, the successful startups of 2021 and the reasons behind the failure of startups were explained. Students were also advised to develop their model in a way that it inclines towards a Sustainable Development Goal for futuristic development.
- **Panel Discussion on Entrepreneurship and VC/Angel Investor Funding for Startups** IIC MRU organized a webinar on 12th June 2021 on the topic “Panel Discussion on Entrepreneurship and VC/Angel Investor Funding for Startups”. The Initiative was undertaken by Dr. Subodh Saluja (Associate Professor, Department of Management, MRU& Innovation Ambassador IIC). Panel consisted of 3 CEOs and founders: Amalore Jude (Founder and CEO ModoEduLabs), Dr. Manoj Mishra (CEO & Co-Founder of the holding and flagship company; Gen-Next Biz Ventures & Consultants) and Mr. Hormazd Charna (Founder and CEO of MergerDomo Services). The aim was to sensitize & educate students towards entrepreneurship and how to get funding for a startup. The speakers explained that products should have a unique selling point and entrepreneurs should study their product in detail, have a roadmap for future before approaching investors, there should be clarity and consistency in approach and entrepreneurs need to know market space, potential of growth.



- **Projects Completed: Robotic arm** The most common manufacturing robot is the robotic arm. A robotic arm is made up of several segments, joined by joints. The computer controls the robot by rotating individual step motors connected to each joint.
- **Project Undergoing: Design & Development of Savonius Wind Turbine Blades to Improve Performance & Efficiency** The Savonius turbine is a type of Vertical Axis Wind Turbine (VAWT) that is known for its compact & simple design that is effortless to maintain and easy to manufacture. This project focuses on designing and development of a

new blade design that can increase the efficiency of these turbines and CFD software ANSYS is used to analyze and study the developed designs.



### 3.4 IPR cell

**Intellectual property (IP)** is a category of property that includes intangible creations of the human intellect. Intellectual Property Rights (IPRs) are legal rights that protect creations and/or inventions resulting from intellectual activity in the industrial, scientific, literary or artistic fields. The most common IPRs include patents, copyrights, marks and trade secrets. The purpose of IPR is encouraged innovation and development. Manav Rachna IPR cell is governed by the University Intellectual property rights policy. Details of Patents filed/published/granted during last one year are mentioned below:

#### 3.4.1 Granted Patent-01

1. Smart Education Framework: Smart AI-IOT based educator monitoring and content availability alert system, Arpit Jian, Aman Kumar, Anand Prakash, Rakesh Kumar, **Sanjay Singh**, Ankur Bhardwaj, Rohit Agrawal Australia Patent application no.2020102616 Granted on 25.11.2020

#### 3.4.2 Published Patent-02

1. System and Method for Communal Violence detection using social networks based community detection, **Priyanka Gupta, Hardeo Kumar Thakur**, Binu Dennis & Rajakumar B. R. Indian Patent application no. 202011030354 Published on 16.07.2020

2. Multipurpose Medicated and Biodegradable absorbent Material/Pad, **Meena Kapahi, Arpit Sand**, B.M Bahal, Akansha Ahuja, Indian Patent application no. 201811049912 Published on 21.08.2020

**3.4.3 IPR Workshop-** The MoE Innovation Cell organized a week-long online KAPILA Program from 15th October 2020 to 23rd October 2020 wherein a series of webinars were conducted for faculty members and students of IIC Institutions. Honourable Education Minister Shri Ramesh Pokhriyal inaugurated the program on 15th October, 2020. On day 2, Mr. Abhay Jere (Chief Innovation Officer, MIC) talked on "Importance of Maharshi Bhardwaj IP Literacy Initiative" followed by the talk of the Director of MIC Dr. Mohit Gambhir on "Importance and Scope of IPR in Academic Researches". On Day 3, Mr. Varun Chamadiya (Founder, Proactive) delivered a talk on "Lateral Thinking How to generate revolutionary ideas' ". On Day 4, Shri Prabuddha Ganguli (CEO of Vision IPR) delivered a



talk on the topic “Seeding Ideas to Harvesting Innovations for social good : Role of intellectual property rights”. On Day 5, Dr. Unnat Pandit (Program Director, Atal Innovation Mission) delivered a session on the topic “Building IP, Innovation ecosystem in Academic Institution ”. On Day 6 and 7, Dr. Sheetal Chopra (India Lead-IPR Advocacy, Ericsson India Ltd.) talked on the topics “Prior Art Search and Patent Drafting- Key insights.” and “Patent Filing Process”, respectively. The sessions were very informative and engaging.

### **3.5 Manav Rachna Business Incubators**

#### **3.5.1 Some of the activities of E-cell are summarized below:-**

- **TagTest** MRU E-Cell organized TagTest, an online tagline writing competition on 10th Dec 2020. Participants were expected to showcase the creativity of an entrepreneurial mind. 50+ creative and catchy taglines were submitted for various brands mentioned in the competition from participants of various universities such as Delhi University, Amity University, and IPU etc.
- **YATRA EP:2-** AN ONLINE EXPERT INTERACTION ON SOCIAL ENTREPRENEURSHIP, 29th October, 2020, Speaker Interacted with students on - social work, prerequisite traits of social work, levels of social work, social entrepreneurship and more.
- **Online group discussion Baat-** "Niche marketing strategy" organized on 9th & 10th September, 2020 where enthusiastic entrepreneurs had a healthy discussion on the topic. The winners of the competition enlisted: Apurva Gupta, MBA, SIBM Pune. Aryan Singhvi, St. Xavier's College, Kolkata. Shringar Jha, MBA (ITBM), Symbiosis Center for Information Technology.
- **21st August, 2020 YATRA** Journey to excellence (EP-1)-A webinar on "New age entrepreneurship", The intakes from the discussion were that there is a huge difference between traditional and new age entrepreneurship, the pros and cons of new age entrepreneurship, the gradual shift of something "new" to something "different" in decades, the skills required to be an entrepreneur and business mindset.
- **June 1- 5, 2020 S-Rachna**, E-Week organized for students followed by a webinar ‘The Paradigm Shift in the Key Areas of Entrepreneurship’
- **HEALTH & BRAINS” ‘An online debate competition’ was organized on 21<sup>st</sup> April, 2021** with the aim to sensitize, discuss and learn, MRU E-Cell organized HEALTH & BRAINS, an online debate competition incorporating the third goal of the Sustainable Development Goals (SDG) i.e., Good Health and Well Being. The participants were given the theme “How pharmaceutical entrepreneurs turned the world's tragedy into their own fortune.”
- **Eleftheria was organized by E-Cell on 5th Aug 2020-** The theme of online, submission based event was “AtmaNirbhar Bharat”/ “The Self Reliant India”. The aim of the event was to empower the hearts of our participants with feeling of nationality."The winners of the competition were: 1st: Mansi Shukla, BBA (OM), Manav Rachna University. 2nd: Ishleen Kaur, B.A B.Ed, Manav Rachna University. 3rd: Hiten Gautam, 5th standard, Modern Public School."
- **MANASVINI by organized by E-Cell on 27th June 2020.** Participants were expected to choose any woman entrepreneur, explain her journey of success in the form of a

presentation and submit it to the judges. The winners of the competition were: Siddhardha Sathanapally, Sreenidhi Institute of Science and Technology Dheeraj Arora, PGDM-International Management Institute, New Delhi ShumiMitra, IIT Kharagpur, VGSOM.

- **EGALITARIAN- A Webinar** MRU E-Cell organized “EGALITARIAN”- A Webinar on 27 April, 2021. Through this event they aimed to draw attention towards the eighth goal of Sustainable Development Goals (SDG) i.e. Decent work and economic growth. The topic for the webinar was ‘Creativity equals Employability’ and the speaker was Mr. Mike Knowles (Design Educator and Practitioner, Visiting Professor University of the Arts London, Emeritus Professor Rishihood University School of Creativity). He explained how important it is to shift to intellectual capitalism. The audience’s interaction and queries made the webinar even more interesting, informative and fun.
- **MRU Entrepreneurship Cell organized “EMPATHEIA” an expository writing competition on 28th June 2021** Empathy is one of the most important entrepreneurial skills. Keeping this in mind MRU Entrepreneurship Cell organized “EMPATHEIA”, an expository writing competition on 28th June 2021. The participants were asked to submit a write-up that described with whom and what they empathized the most within their environment and what innovative solutions they wish to build and offer.



### 3.6 Innovations and Competitions won

- **Team Error=404** of B Tech. CSE, MRU, is the proud WINNER OF SMART INDIA HACKATHON 2020 under Software Category. They represented MRU on problem statement of Ministry of Rural Development “MK206” (Non network intensive record keeping system for Self Help Group) virtually in online mode at Chandigarh University Nodal Centre, during the Grand Finale of Fourth Software edition (Online platform) of Smart India Hackathon- 2020, held on 1st to 3rd August 2020. Team Error=404 won the prize money of INR 1,00,000. Manav Rachna University congratulates the Team Error 404 comprising of BTech CSE 7th Sem students – RishabhDhiman, MrinmoyMitra, Aayush Singh, Deepak Bhardwaj, VishakhaTyagi, and Aman Gupta, along with their mentors Prof AnuPriya Sharma and Prof Ankur Kumar Aggarwal.
- Team Psycrypters comprising of Minhajul Hossain (CSE 7A), Parul Taneja (CSE 7C), Deepak Rana (CSE 7D), Naman Gupta (CSE 7A), Parikshit Sharma (CSE 6C) and Prince (CSE 6A) was shortlisted for the final round of SIH Hardware Edition 2020. The team was supported by the University to bear the financial aspects of their project.
- Akash Dubey, RCC student member, B. Tech CSE 6B offered his services as a back end Developer in R&D Expert (USA based Company) from July 2020 – October 2020. He also experienced the flow of database and backend servers.
- Minhajul Hossian, (CSE 7<sup>th</sup> Sem) was selected to become one of the mentors for the Garuda Hacks event on 14 – 16 August 2020, Hackathon, organized by Garuda Hacks Indonesia’s Premier Global Hackathon.
- Minhajul Hossian, (CSE 7<sup>th</sup> Sem) was selected to become one of the mentors for Hack the 6ix 2020 on 19<sup>th</sup> September 2020, Hackathon organized by Hack the 6ix.
- Jishnu (BBA) Operations Management from the Department of Management and Commerce completed an internship in “YEF” Youth Empowerment Foundation as a volunteering intern. This platform provided him with an opportunity to collect funds for the betterment of Covid Warriors and contribute to society. Completed a Technology Consulting Virtual Internship in Deloitte from Inside Sherp.
- Ankur got the 3rd Position in “Go-Kart Design Competition” organized by the Department of Mechanical Engineering & Automobile Engineering, held on 28 April 2021 at IILM College of Engineering & Technology, Greater Noida.
- Karan Khanduja, B.Tech. Mechanical (with Specialization in Smart Manufacturing and Automation) Semester-2nd, participated in Shubhankar Sharma Golf Tournament organized by Ace Golf on 8th Jan 2021.also participated in The Ultimate Sprint Series Golf Tournament organized by The Ultimate Foundation on 12th Jan 2021 also came runner up in the Pgti-professional golf tour of India on 19th-20th March 2021 also participated in “Play Golf Gift a Life” Golf Tournament organized by Rotary Club of Delhi South from 14th April to 25th May 2021.
- **Project Khabare** A news application that helped users to manage their news preferences and get news without any user credentials was developed by Akash Dubey, RCC student member, B.Tech CSE 6B under the mentorship of Prof. Parneeta Dhaliwal. This project participated in the Atma Nirbhar Bharat App Innovation Challenge 2020.

- **Samarth Helpline** (National helpline for Elders): A team of MRU students under the mentorship of Dr. Parneeta Dhaliwal, Associate Professor, MRU worked as part of the core team for a National Initiative- Samarth Helpline for Elderly against Covid19 during June-July, 2020. The helpline was supported by Hindustan Times, SBI, Coca Cola India and Unilever as a social initiative with Samarth Eldercare. It has already helped 1500 cases so far in 40+ cities across India. The student team was composed of Ashwani, B.Tech CSE 5C, Saksham B.Tech CSE 5A, Harshita B.Com LLB 5, Animesh B.Com LLB 5, Riya B.Tech CSE 5C, Pranav B.Tech CSE 3B, Aarzo Kapoor B.Tech CSE 5, Siya Sharma B.Tech CSE 3C.
- Karan Aditya Ghoshal, BTech CSE 2nd Year joined KPMG-Egyde Cybersecurity, as Junior Cyber Threat Intelligence Analyst, with a package of 1.2 Lakhs per month. Karan with his expertise in this area, has got this opportunity and is currently devoting 40 hours per week for this role and is also pursuing his BTech CSE studies at University.
- Ravi Prakash 1. Consultancy Project -Delish Website: This is a consultancy project to develop ecommerce website -Ciais website this is the website for conference happening in MRU 2. Training: I have trained the students in web development in RCC. The program lasted 12 weeks. 3. Internships: -Trixno: Position Title: Developer Start Date: 20th Aug 2020 End Date: 20th Oct 2020 -Grafieks Analytics Limited: Position Title: Application development Intern
- Parikshit Sharma (2K18CSUN01121) 1. Competition: (2020) -Hack RCDU -Bennet Hackathon -Hack NSC 2. Internships: -Hierophant Global Solutions (1.12.2020-1.01.2021) -Hobbit Technologies Pvt Ltd. (1.11.2020) -Pinak (02.02.2021)
- **Doubt Clearing Session** An online “Doubt Clearing Session” was organized by the MRU CodeChef Campus Chapter Team on 1 Dec, 2020, 4-5 PM. This doubt session was kept with the junior members of the Chapter who had been solving problems for some while now. They collected their doubts from previous competitions and asked them in this doubt session. Divyam Arora, Yogesh Kumar and ChandanTaneja (president) helped clear these doubts and discussed important concepts used in those questions. They also guided the participants about the online study material and the concepts they should focus on. The doubt session was a success as many of the juniors gave great feedback. The event was conducted by ChandanTaneja (President), Lakshya Mittal (Competitive Programming Lead), Umang Raj (Events Lead), NehaLakhotia (Outreach and Media Lead).
- **CookOff discussion** An online discussion event of “Cook off” contest was organized on 28th Dec, 2020, 5-6 PM by MRU CodeChef Campus Chapter Team under the mentorship of Dr. Parneeta Dhaliwal. Many students from MRU participated in this contest, generating a good response in solving extensively tough coding problems. It was followed by a discussion for solving the doubts that the participants have faced in the challenge and various other issues that the students are dealing with in competitive programming. The participants also shared their experience while solving the coding problems. The event was conducted by Chandan Taneja (President), Lakshya Mittal (Competitive Programming Lead), Umang Raj (Events Lead), Neha Lakhotia (Outreach and Media Lead).

- **Training on Web Development** A training program for 12 weeks for the students was organized in November, 2020 in the field of web development(UI/UX, Frontend development and Backend development), where students worked on 2 minor projects and 1 major project. The minor project included a portfolio website for each student. In UI/UX, students created a design of various websites like an e-Commerce website, blogging website and admin panel. In the backend, students have created many APIs like login, register, show profiles, all the APIs of the e-Commerce website, etc. The major project includes a content management system including an admin panel. The training was conducted under the mentorship of Dr. Parneeta Dhaliwal. The trainers were Ravi Prakash (CSE 6C), Harsh Mittal (CSE 4B), Sanchit Bajaj (CSE 4B).
- **Training on Android App Development with primary focus on Android development basics** An Android App Training with primary emphasis on Android App development was conducted from 18th Oct - 30th Nov, 2020. The objective was to develop this skill set in first year students and prepares them for advancement in android development. The content focused on Introduction to android development tools, helping students understand the basics and the backend of android and basic Java programming, and hands-on practice sessions and mini projects/ tasks periodically to ensure student interest and ensure a stable learning curve. The trainer was Mukul Singh (B. Tech CSE).

### 3.7 Institutional Social Responsibility (ISR)

Under the 'UNNAT BHARAT ABHIYAN, Ministry of Human Resource Development (MHRD), aiming to connect the higher educational villages around, for transfer of knowledge to enrich rural India, MRU had adopted five villages and had been working on their various needs.

- Pali
- Ankhir
- MewlaMaharajpur
- Anangpur
- FathepurChandela

**A Mega Plantation Drive was carried out on 18<sup>th</sup> August 2020 in the adopted Villages under ONE NATION- PARYAVARAN SANRAKSHAN GATIVIDHI from August 15-22, 2020**

Under the aegis of Dr OP Bhalla Foundation in One Nation Paryavaran Sanrakshan Gatividhi week, a mega plantation drive was carried out .2000 saplings (500 per village )of trees like Guava, Jamun, Chakreshia, Sheesham, Neem, Kaner, Alstoniya, Kachnar, Curry Plant, Raatrani, Peepal, Arjun and Amla were distributed in all the adopted villages i.e. Ankhir ,Mewla, FathepurChandela, Anangpur and Pali . These saplings will be planted on the periphery of the Village Ponds, and in Schools, Community Center, and other common buildings under the Village Panchayat.

The People of village and children were very enthusiastic and motivated to be a part of the plantation drive. The faculty members from Manav Rachna University Mr.MandeepBhadana, Mr.Ajit and Mr.Yogesh along with Manager- ISR Mr.Sachin Aneja were part of the drive.



**ONE NATION- PARYAVARAN SANRAKSHAN GATIVIDHI from August 15-22, 2020**

**Clans under the Student Council of Department of Student's Welfare (DSW) organized series of activities under ONE NATION- PARYAVARAN SANRAKSHAN GATIVIDHI from August 15-22, 2020**

**Clan Air Falcons conducted an event of Best out of Waste from 16th to 19<sup>th</sup> August** .There were more than 20 responses from the students. The theme of the event was environment related and students were told to come up with some good creative usable things made up from the waste.

They also conducted online **Debate competition - IS TOURISM BENEFICIAL TO AN ENVIRONMENT?**

As part of the "ONE NATION- PARYAVARAN SANRAKSHAN GATIVIDHI". Clan Forest Rhinos **organised an "Essay writing competition" on the topic "Climatic changes on Earth"** .The objective of bringing a fortnight of intense focus on the issues and practices of Climate change in the world.

Clan Wild Cats organized '**Environmental Photography Competition**' under environment-related activities as ONE NATIONPARYAVARAN SANRAKSHAN GATIVIDHI on August 17, 2020. This competition involved participation from all the students beyond university and had more than 90 entries.

They also organized '**Poster Making Competition**' under environment-related activities as ONE NATION- PARYAVARAN SANRAKSHAN GATIVIDHI on August 17, 2020. This competition involved numerous competitive posters on the theme 'Warriors of Mother Nature'. The participation of the students was overwhelming and the creativity could be seen through their posters

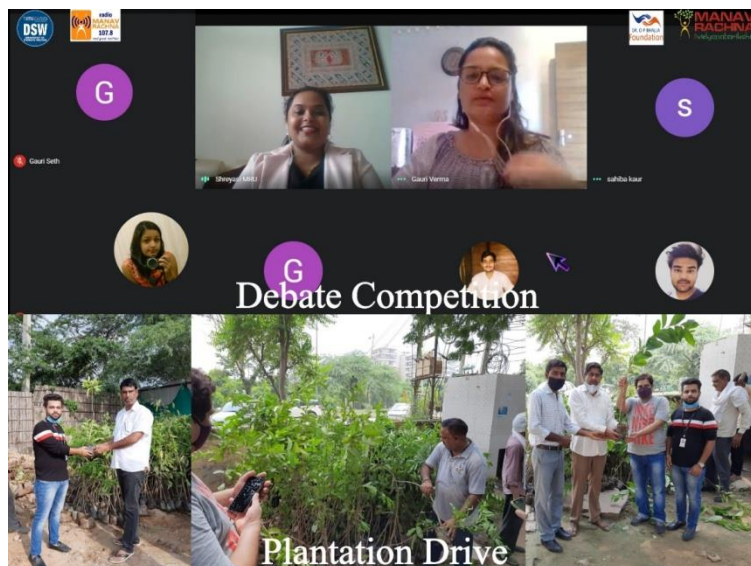
Clan Water Sharks organized event of **Selfie with Plant** .The event was welcomed enthusiastically in which both students and teachers participated .A step for better environment was no way better than this. There were total of 58 registrations including school students, College students and teachers. The campaign named "Plant a sapling click a selfie" was a great hit. It was organized in a way to plant more and more plants/trees in our

surroundings to keep our environment health and our Mother Nature safe. Everyone was satisfied with the activity and appreciated the concept and demanded for more such no competition events in the near future

They also organized a on **PLANT AND NOURISHMENT, a WORKSHOP ON COMPOSTING**

Dr.Meena Kapahi, the speaker gave a brief on composting and how various techniques can be incorporated from the kitchen waste which can be used for our plant nourishment .There were more than 50 participants in the session including Faculty and students.

Paryavaran Sanrakshan Gatividhi was successfully concluded with a look at the big picture and key issues, the common-sense solutions to our environmental problems, and the stories which remind us of our brilliant connection with the real world - nature.



**UpLiftHer –on 25<sup>th</sup> November (International day for elimination of violence against women) :**On 25<sup>th</sup> November, UpLiftHer was organised under Department of Student Welfare, Manav Rachna University. The main theme of the event was upliftment of women and to spread awareness regarding the violence and crimes which take place against women of our society. As we all know that social media has been a great source to spread awareness and tell people on a large basis about anything which happens in our society, thus we wanted this awareness event to be a **REEL MAKING COMPETITION**, as reels

are in trend and would spread awareness even faster. The topic was relevant with the current situation of women in our society, as there has been an increase in the crime against the women in this lockdown.

**Winners of the event-**

- 1<sup>st</sup>- DAMINI MISHRA
- 2<sup>nd</sup>-ABHISHEK BHARDWAJ
- 3<sup>rd</sup>-KHUSHI SHARMA

**Mask-O-Mania:** On the occasion of Christmas, The student council, Department of student welfare of Manav Rachna University organized a Party mask making competition on 24<sup>th</sup> December 2020. Event was great success and there were total of 20 registrations. It was organized by Siya Sharma (BTech CSE) and Aaryan Srivastava(BTech CSE). The event was judged by Shreya Malhotra Ma,am of CSE dept. Participants were happy about the competition and demanded for more such events in future.

Winners are as follows:

- 1. kamujula Sri veeravenkatasatyavinayak (Manav Rachna University)
  - 2. Srishti Singh (Manav Rachna University)
  - 3. Divija Sekhri (Manav Rachna University)
- 
- From July 2021 ,the following new villages were adopted and various activities were carried out there
    - Chhainsa
    - Atali
    - Mothuka
    - Dayalpur
    - Gadkheda

Dr.OP Bhalla Foundation in association with Clans under Department of Student Welfare Manav Rachna University organized MEGA Plantation drive under PariyavaranSanrakshanGatividhi in all the adopted villages Dayalpur, Gadkheda, Atali, Chhainsa ,Mothuka.

The Faculty members and Students participated in the drive in large numbers.

As per the requirements of each village trees and saplings of Peepal, Bargad,Jamun,Neem, Gulmohur,Amaltas,Amrood,etc were donated in large numbers.

Around 1500 plants were planted







- On January 4th 2021, hundreds of Old Books and more than 2000 notebooks were donated to the NGO named Books for All. These notebooks have been given by the Central stores. All these books and notebooks will be further given to the needy students especially from Government Schools. The NGO was also given a lot of used notebooks and papers which will be further recycled by them to make new notebooks for the underprivileged



- On Jan 16<sup>th</sup> 2021 Dr O P Bhalla Foundation conducted a webinar where the Guest of the Day was Dr. GP Bhagat , Founder SHEOWS who is running many Old Age Homes and is looking after not only one or two but hundreds of destitutes.

- To commemorate the occasion of ‘Matr Bhasha Diwas’, Dr O P Bhalla Foundation in collaboration with DSW-MRU organized an Open Mic event at ‘Manch’ on 23<sup>rd</sup> February 2021, where various participants from not only Manav Rachna, but other colleges also. The event was graced by Dr N C Wadhwa, Director General, MREI, Dr Shruti Vashisht, Dean DSW – MRU and other senior faculty members. Dr Wadhwa flagged the event with his words of wisdom and also encouraged the audience to feel proud of their Mother Tongue. Participants narrated poetry, song, shayari, short story etc. in their “Matrabhasha”. Also, there was a Live performance by



“Salosh” and “Modern vintage”.

- On Feb 27,2021 Awareness webinars were conducted on the Green Policy of the campus by Dr O P Bhalla Foundation. The welcome speech was given by Dr N C Wadhwa where he shared the importance of better environment and its benefits. Dr Abhilasha Shourie explained the Green Policy of the Campus to the faculty, staff and students of the campus in various slots. The schedule was as below:

On March 8<sup>th</sup> 2021, Team Dr O P Bhalla Foundation revived ‘**Maitri**’ on the occasion of International Women’s Day. All the Deans, Directors and HODs across the campus were invited for the event which was conducted at B Block Seminar Hall. The ladies were given a fun and rejuvenating time in the first session of Maitri where they could have some relaxing time from their busy and stressful schedules in home and at work.



- On the occasion of Women's Day, March 8<sup>th</sup>2021 , Dr. OP Bhalla Foundation, Manav Rachna Center of Peace and Sustainability and Department of Student Welfare, MRU came together to form a team named 'Aadya' which organised the whole women's week with several events on women empowerment. This event was organized under the mentorship of Dr. NC Wadhwa, Director General, MREI and Prof I K Bhat, Vice Chancellor, MRU. The week started with its first event on 8th March, named "Aaj Ka Din Aapke Nam" dedicated to Female Housekeeping Staff of MRU and MRIIRS where Manav Rachna family showed gratitude towards the house keeping women staff. The Chief Guest of the event was Dr. NC Wadhwa, Director General-MREI who expressed his views on women empowerment, significance of women in ancient Indian times in society and later on degradation of women's status. He also appealed to youth to change the mindset to make changes in society. The women house staff were felicitated with gifts as a token of appreciation and respect for their perseverance to cope up with challenges of life by balancing their contribution in family making and raising their children along with their contribution to Organization.

Further in the week, team organised panel discussions on the topic of "Domestic violence against women during pandemic" in collaboration with Department of Management, where detailed deliberations took place and the causes for the domestic violence were discussed. The team also shed some light over issues regarding gender equality and the problems which everyone faces in their day to day life by conducting a Discussion on "Stereotypes faced by us" in collaboration with the Law Department of Manav Rachna University.

One of the unique events of the week was a Radio Show in collaboration with the Radio Manav Rachna in which anyone could come forward and share his/her experiences on the Gender Equality and that goes on air 'anonymously' by Radio Manav Rachna. With all these events, the team conducted some other events like Dare-2-Aspire, Tattoo Making Competition, Hashtag Viral, Law Dialogue, quiz and many more.

Week ended on 13th March, with the total participation of 300+ in the whole week and the motive of the event which was to spread awareness about women empowerment was fulfilled effectively. Dr. Shruti Vashist, Dr Geeta R Thakur, Dr Gurpreet Kaur, Dr Versha Vahini, Dr Manmeet Bali Nag, Ms. Diksha ably guided a team of students for this weeklong event.



- An army of more than 20 Green Warriors has been constituted with students of MRU and MRIIRS and they have started working on various projects like Eco Bricks awareness campaign as well as collection from the students and faculty in the campus, development of the butterfly garden, nature's walk to get a feel of our environment with Samarrth Khanna, the young environmentalist. More students are being roped in for this project.
- On March 24, 2021 Dr. Deshpal Singh, Dr Geeta Thakur and Ms Vaishali Mathur visited Asola Bhati wildlife sanctuary and understood the procedure to set up a butterfly park. They also took a lot of information from their Center Manager Sh. Sohail Madaan. The team also had a detailed meeting in the presence of Dr. N C Wadhwa with Sh. Samarrth Khanna, the Young Environmentalist to understand minute details to be considered while developing the Butterfly Park. Mr. Samarrth Khanna has successfully developed a mini forest in Sector 15 Faridabad, and could give a lot of inputs through his experience.
- On April 4th, 2021 on the occasion of Founder's Day, Team Foundation visited Guru Vishram Vriddh Ashram, Badarpur. They donated a 2 ton air conditioner, a laptop, 2000 adult diapers, lot of dry grains and other food items along with lot of housekeeping material. Dr Bhalla also discussed about the regular problems faced by the Ashram in details. In addition to the regular help from Manav Rachna Group, Dr Amit Bhalla assured to connect the Ashram with few reputed corporate groups for arranging help from their CSR funds to the Ashram. Dr GP Bhagat, promoter of the Ashram shared everything in detail and thanked Dr Bhalla and Manav Rachna Group for their continuous and regular support to the Old Age Home.



- Under the aegis of Dr OP Bhalla Foundation, today more than 300 curtains along with a lot of clothes etc were donated to Shirdi Sai Baba Trust. These items will be further washed and sanitized for distribution to the underprivileged and needy. The curtains have been donated by MREIs however the clothes and other items were donated by MR associates.

- Under the aegis of Dr OP Bhalla Foundation, more than 3500 sanitary napkins were donated to Pardada Pardadi Educational Society on 14<sup>th</sup> June 2021. These sanitary napkins will be further donated to the adopted women of Anupshahar Village. All the women of this village have been adopted by this Society and the Society has been working hard to empower these underprivileged women. The sanitary napkins have been donated by MR associates.

## **CHAPTER – 4**

### **SUMMER TRAINING/ INTERNSHIPS**

#### **Summer Training Modules (In House Summer Training)**

##### **4.1 Department of Chemistry**

Summer training: B.Sc. 2<sup>nd</sup> semester; (2019-2022 batch) Chemistry Wastewater treatment in decentralized system and its local reuse:-

##### **Learning objectives:**

1. To identify challenges associated with wastewater treatment.
2. To develop understanding about the decentralized wastewater treatment system and its advantages over centralized treatment system.
3. To apply the knowledge for designing a cost effective and efficient decentralized wastewater treatment system.

##### **Topics covered:**

To develop awareness about potential decentralized wastewater treatment including successfully implemented case studies of local reuse of treated wastewater.

1. Chemistry of water and its distribution
2. Global water footprint
3. Wastewater generation and characteristics
4. Wastewater parameters and its analysis
5. Water quality standards (WHO, BIS)
6. Water quality index (calculation)
7. Monitoring of water quality (secondary data)
8. Conventional wastewater treatment process
9. Concept of decentralized wastewater treatment
  - a. Anaerobic treatment
  - b. Aerobic treatment
  - c. Bioremediation
  - d. Solar desalination
  - e. Case studies on decentralized wastewater treatment systems.

##### **4.1.2 Summer training: B.Sc. (4<sup>th</sup> semester, 2018-2021 Batch) Chemistry**

##### **Learning objectives:**

1. Students will be able to understand the basics of types of research and identify research problems.
2. Students will be able to explain different ethical issues in research.
3. Students will be able to understand the effective way of the literature review process.
4. Students will be able to explain research data and present data through coding, classification and tabulations.

##### **Topics covered:**

1. Introduction of research methodology
2. Ethical issues in research: Anti-Plagiarism Strategies for Research
3. Identification of research problem
4. Literature review
5. Research design : problems with research design

6. Sampling methods
7. Methods of data collection and presentation

#### **4.2 Department of Physics**

##### **Topics to be covered:**

1. Physics of plasma system
2. Linux/Density functional theory (DFT)
3. Fabrication and characterization of nanomaterials
4. Study of ionospheric parameters

#### **4.3 Department of Computer Science & Technology**

##### **Post 6th SEM Internship**

**Duration: 6 Weeks**

##### **Modules**

- Internship/Project: Physical/Remote Internship or Web based/App based/ML based Project/Research Paper
- Online Course: Coursera/Saylor Academy/Any other E-Learning Platform  
Post 4th SEM Internship

**Duration: 6 Weeks**

##### **Modules**

- Internship/Project: Physical/Remote Internship or Web based/App based/ML based Project/Research Paper
- Online Course: Coursera/Saylor Academy/Any other E-Learning Platform

##### **POST 2<sup>nd</sup> SEM**

**Duration: 4 Weeks**

**Batch - 8th Semester**

**Learning objectives -**

##### **COURSE OBJECTIVES:**

- To emphasize on Long-term, multidisciplinary, and student-centered learning activities.
- To promote independent learning through problem solving in a social environment.
- To engage students in rich and realistic learning experiences.
- To give each student the opportunity to participate, either alone or in a group, to build teamwork skills and professionalism.

**Modules/topics covered:** - As per company norms.

**Duration:** - 6 to 8 Week

##### **Modules:-**

- Project: C/Python/UI Project
- Online Course: Coursera/Saylor Academy/Any other E-Learning Platform

#### **4.4 Department Of Management & Commerce**

##### **Summer Internship-Semester 4 BBA OM/EFB/HCM/FAA Batch 2019**

**Duration: 16 weeks/ 4 months**

##### **Learning Objectives:**

- Students will be able to explore career alternatives prior to graduation.
- Able to integrate theory and practice.
- Assess interests and abilities in their field of study.
- Learn to appreciate work and its function in the economy.
- Develop work habits and attitudes necessary for job success.
- Develop communication, interpersonal and other critical skills in the job interview process.
- Able to build a record of work experience.
- Acquire employment contacts leading directly to a full-time job following graduation from college.
- Identify, write down, and carry out performance objectives (mutually agreed upon by the employer, the MCC experiential learning supervisor, and the student) related to their job assignment.

##### **Topics Covered:**

- Supply Chain Planning, Supply Chain Sourcing ,Six Sigma Principles
- Operations Management A-Z: Business Processes and Systems
- LEADERSHIP IN 21st CENTURY
- Design thinking for innovation
- Introduction to accounting Data analytics and visualization
- Healthcare 4.0 - Healthcare in the Industry 4.0
- Introduction to health financing
- Accounting Principles of financial Accounting
- Supply Chain for Management Consultants & Business Analysts

##### **Summer Internship-Semester 6 BBA OM/EFB/HCM/FAA Batch 2018**

**Duration: 16 weeks/ 4 months**

##### **Learning Objectives:**

- Explore career alternatives prior to graduation.
- Integrate theory and practice.
- Assess interests and abilities in their field of study.
- Learn to appreciate work and its function in the economy.
- Develop work habits and attitudes necessary for job success.
- Develop communication, interpersonal and other critical skills in the job interview process.
- Build a record of work experience.
- Acquire employment contacts leading directly to a full-time job following graduation from college.
- Identify, write down, and carry out performance objectives (mutually agreed upon by the employer, the MCC experiential learning supervisor, and the student) related to their job assignment.



### **Topics Covered:-**

- Digital Marketing
- Outbreaks and Epidemics in coursera by John Hopkins University , USA
- Planning and patient safety or quality improvement project in coursera by John Hopkins University , USA
- Data Analytics Consulting Virtual Internship
- Socio Labs in HR
- Completed Data Analytics Consulting virtual Internship at KPMG
- Problem Solving skills
- Presentation skills: Designing Presentation Slides

### **4.5 Department of Mechanical Engineering**

- Industrial Internship in Maruti, AirCon Engineering Solutions, Escorts, Sai LPG Products, KAT6 Security System, Sterling Tools, Honda Motorcycle and Scooter Ltd., SunBeam Auto Private Ltd., JCB India, Zivah International Pvt. Ltd., Plasto Metal Corporation Pvt. Ltd., Renewable Energy Pvt. Ltd., Divye Precise Engineering, Godgrej Boyc, Perfect Air Clean Room, Shree Balaji Packaging Group, Action Construction Equipment Ltd., Motherson Sumi and many more.
- Online course on NPTEL, Edx, Coursera, etc. MOOCs provide an affordable and flexible way to learn new skills, advance the career and deliver quality educational experiences at scale.
- Altair Training offers the unique eLearning program in Design and Simulation using HyperMesh, Radioss, Optistruct, SimSolid, Manufacturing, CFD, etc. Students achieved the certifications from Altair University.
- 3D Printing Production offers a range of advantages compared to traditional manufacturing methods. These advantages include those related to Flexible Design, Print on Demand, Strong and Lightweight Parts, Fast Design and Production, Minimizing Waste, Cost Effective, Ease of Access, amongst others. Students learned and developed the projects using additive manufacturing.

### **4.6 School of Education and Humanities**

#### **School of Education and Humanities**

**Batch: 2020-21**

#### **Learning objectives**

#### **School Internship Program**

This is an entirely practical teaching based training where trainee teachers are placed in the school setting and they perform all activities assigned to them. The activities range from preparation of lesson plans, preparation of teaching learning material, presentation of the same, conducting short term researches in the form of action research and also preparation of a reflective journal that is used by them to think about their experience and plan out a remediation.

**Duration : 16 weeks / 04 Months**

#### **Learning Objectives:**

- CO 1 Recognise the contribution of psychological, philosophical and socio - economic factors in optimizing teaching and learning
- CO 2 Articulate experiences of observing the teaching of mentor teacher/ teachers and peers
- CO 3 Present the observations of internship period in a systematic and structured manner in the form of individual and/or Group Tasks

CO 4 Provide constructive feedback to the peers and accept feedback from them with respect to their teaching

CO 5 Appreciate importance of school engagement program as a integral component of teacher training programme

CO 6 Demonstrate an understanding of the differences between government and private school settings and ways of functioning.

**Learning Activities:**

Students are expected to perform the following activities while in school:

1. Prepare Lesson plans as per their pedagogy subjects
2. Execute the Lesson Plans in the classes under the supervision of mentors.
3. Conduct curricular and co-curricular activities in school
4. Participate in community based activities
5. Conduct action research in class aimed at solving some research problem.
6. Prepare a case study on a special child in the class
7. Conduct sessions on skill development during the internship

## Chapter 5

### ACHIEVEMENTS OF FACULTY

The faculty members of Manav Rachna keep themselves updated in consonance with emerging trends in education and latest thrust areas in research by involving in various academic activities. Following details throw light on their remarkable achievements, participation along with their endeavors in different associated fields. Their contribution is commendable in empowering learned society either by becoming member of committees, invited speaker, reviewer /editor of research journal or external examiner etc., Several Faculty members are given special recognition and awarded for their exemplary work during session 2020-21. Listed below are some of their participations, awards and recognitions

#### **5.1 E-Content Developed**

- Dr. Babita Parashar launched the three week MOOC course on “Social Emotional Learning: Learning to be” under UNESCO online mentoring program to be offered from 10-30 June, 2021. The course is offered on Open Learn Platform.
- Dr Babita Parashar launched ‘Let’s Talk’ series, a collaborative learning platform on 15th June. The Inaugural Talk was delivered on ‘EQ vs IQ: A perspective’.
- Dr Babita Parashar contributed a Unit entitled, ‘ Educational Innovations and Experiments: Global Practices’ towards B.A. Program under course “ Education as a Practice” offered by IGNOU in May, 2021
- Dr. Savita Sharma received the approval of the project for the development of MOOC on the theme of Mindfulness in Education under UNESCO’s Open Education for Better World Initiative

#### **5.2 Membership of International/National Societies/Committees/ Sessions Chaired/Lectures Delivered:**

##### **Achievement:**

- Dr Manmeet Bali Nag selected for the role of reviewer for the prestigious NAFSA Conference.
- Dr Seema Gupta delivered a lecture on Legal Awareness for Girls on the topic Mann ki Baat - Role Model for Girls Program in Government Model Senior Secondary School , Uncha Gaon, Ballabhgarh Faridabad on 23/01/2021.
- Ms Sakshi Bahuguna was Invited Speaker in Webinar on Equality which was Online Organized by DSW, MRU, 16/01/2021.
- Dr. Manpreet Kaur of CST was appointed as a reviewer in IJSI, IGI-Global in January 2021.
- Ms. Gaganjot Kaur of CST dept received Mentor certificate for the Jan-Dec 2020 semester for IOT course on 24th March 2021 from NPTEL.
- Dr. Manpreet Kaur of CST Deptt. was promoted to "Senior Member" IEEE Award on 20th April by IEEE (USA) for her contribution and association with IEEE student activities.
- Dr. Babita Parashar successfully conducted the training for Foreign Language Department staff, Naryn State University, Naryn, Kyrgyzstan, Central Asia the training called “Online Methods of TESOL” on 12th January, 2021.
- Mr. Chandra Prakash Singh successfully conducted an online session on “Policy Focus on Professional Development, Adult Education and Lifelong Learning” as a Resource Person in the Continuing Rehabilitation Education (CRE) Programme on “New Educational

National Policy 2020” conducted by Chamunda Mata Bahuddeshiya Vikas Parisar Dhule Sanchalit D.Ed. Spl. Edn. (ID) College Tal – Parola, District – Jalgaon, Maharashtra, on 29th & 30th January 2021.

- Mr. Chandra Prakash Singh successfully conducted an online session on “Art Integrated Learning” as a Resource Person in the Continuing Rehabilitation Education (CRE) Programme on “Vocational Assessment” conducted by Composite Regional Centre, Nagpur, Maharashtra, on 1st & 5th February 2021.
- Mr. Chandra Prakash Singh successfully conducted an online session on “Assistive Devices & Accessibility for Adult Independent Living” as a Resource Person in the State Level Continuing Rehabilitation Education (CRE) Webinar on “Pre-Academic Skills Pre Reading, Writing and Math” conducted by Integrated Institute of Rehabilitation for Disabled, Agra, Uttar Pradesh, on 26 th & 27 th February 2021.
- **Mr. Chand Prakash Singh** successfully conducted an online session on “Specific Learning Disability: Easy Steps for Identification and Intervention” as a Resource Person in the National Webinar organized by National Consortium of Training Institutions in India on 06 th March 2021.
- **Mr. Chand Prakash Singh** successfully conducted an online session on “Creating Community Awareness” as a Resource Person, organized by National Consortium of Training Institutions in India on 11th March 2021.
- **Mr. Chand Prakash Singh** successfully conducted an online session on “Prerequisites of Adult Independent Living” as a Resource Person in the Continuing Rehabilitation Education (CRE) Programme on “New Educational National Policy 2020” conducted by Chamunda Mata Bahuddeshiya Vikas Parisar Dhule Sanchalit D. Ed. Spl. Edn. (ID) College Tal – Parola, District – Jalgaon, Maharashtra, on 12th March 2021.
- Mr. Sharv Datt Anand successfully conducted an online session on “Empowering Children with Special Needs with Special Reference to RPWD Act-2016” as a Resource Person in the National Webinar organized by Global Education & Training Institute on 06th March 2021.
- **Mr. Sharv Datt Anand** successfully on “Special Education In Kashmir - A Neglected Sector” as a Resource Person in the International Webinar organized by Wolur Telecast on 11th April 2021.
- Faculty of Education and Humanities organized a National Webinar on “Stress Management during COVID-19 Pandemic” at Manav Rachna University on 22<sup>nd</sup> April 2021.
- Dr. Savita Sharma Received the appreciation for being the Judge of 'Dazzeltainment-Unleash your talent' event as part of the Annual Language Fest - "Transcendence, 2021" on the theme “Marching towards a Better Tomorrow” on April 20, 2021 organised by Manav Rachna Centre of Foreign Languages.
- Dr. Savita Sharma was invited as a resource person for the extension lecture on the theme “Mindfulness in Education” organised by District Institute of Education and Training, Karkardooma on 17th May 2021.
- Dr. Savita Sharma was invited as a resource person for the extension lecture on the theme “Mindfulness: Critical Life Skill for 21st Century Learners” organised by Rawal College of Education on 1st June 2021

- Dr. Savita Sharma was invited as a resource person for the online workshop on the theme “Relevance of Mindfulness in Today’s Scenario” organised by Guru Ramdass College of Education (GGSIPU) on 12th June 2021.
- Prof. Geeta Thakur was invited as a resource person for the session on “Reference Management Software: Mendeley” conducted by Manav Rachna University on 22<sup>nd</sup> May 2021, for their faculties and Ph.D. scholars.
- Prof. Geeta Thakur was invited as a resource person for the FDP for teachers organized by Gold Crest High on “Enriching Teaching Learning beyond Classroom” on 2nd May, 2021.
- Dr. Pooja was selected as “IYS Deputy Country Coordinator – WSDA New Zealand
- Dr Manmeet Bali Nag was a Panelist in a Webinar organized on 22nd Oct 2020 by Kashmir Strategy & Study group (KSSG) to evaluate & critique the Pak Proxy War in Kashmir.
- Dr Pragati Chauhan, Associate Professor & Head- Department of Management & Commerce delivered a lecture to the Post graduate students & Faculty of Jagannath International Management School (JIMS) Kalkaji on 15<sup>th</sup> Jan 2020 in the capacity of “IIC- Innovation Ambassador”. She was invited as a resource person to orient more than 100 students of JIMS-IIC club on Innovation and Entrepreneurship.
- **Dr Pragati Chauhan** was appreciated for being part of the Global Jury and helping evaluate Wadhvani NEN course’s student Practice Venture applications from all over the world on the YouNoodle platform

#### **Session Chaired/lecture delivered by the Faculties**

- Dr Seema Gupta participated in an Event “Express It” a tribute to Subhash Chandra Bose, where she was the judge, it was an online event held on 23/01/2021.
- Dr SK Bose gave a lecture on Cyber Law to CSE, FET and MRIIRS on 17th Feb 2021.
- Mr Ajay Bhatia was the Co-judge with Dr SK Bose in Legal Vignette: Online Case presentation competition it was online through Zoom on 27th and 28th Feb 2021.
- Ms Chaitali Wadhwa was a Moot Court Arbitrator in Moot Shanghai - The Pree Moot of Vis International Arbitration Moot, Duration: 1 day in March 2021.
- Dr. Megha Bansal, Associate Professor, Chemistry Department, MRU was invited as a Guest of Honour in the International Women’s Day celebrations at National Council for Cement and Building Material to address the officials and staff of NCCBM on 8th March 2021.
- Dr. Megha Bansal invited as a Speaker during online Fifth Edition of Catalysis and Chemical Engineering Conference held during February 22-24, 2021 in San Francisco, CA, USA.
- Dr. Pradeep K. Varshney, invited as a speaker to deliver a talk in online mode on 16 June 2021 on the topic “Business Intelligence” at ED Cell and IIC of IIMT, Greater Noida.
- Dr. Arpit Sand delivered talk in one week Short term course on theme 'Advanced Materials For Aatmanirbhar Bharat' in organized by J C Bose University of Science and Technology, YMCA Faridabad, Department of Chemistry in association with American

Chemical Society (ACS) & VIBHA (Vigyan Bharati) Faridabad during 13-28 February 2021 (only Sat. and Sun.)

- Dr. Manpreet Kaur, delivered talk on “IEEE Women In Engineering Affinity Groups/ SBAG” at Chandigarh University, Punjab on 29 January , 2021
- Dr. Sanjay Singh chaired a session at "International Conference on Intelligent Technologies (CONIT 2021), 25 – 27 June 2021, IEEE 2021 The International Conference for Intelligent Technologies, Hubballi and Kartakata, India.
- Ms. Gunjan delivered Python Hands on Training to MRIS School Teacher in online mode for 2 days on 6th march 2021 and 20 March 2021.
- Dr Sujata Nayak has chaired a session in 1<sup>st</sup> International conferences on Mechatronics and Artificial Intelligence (ICMI) held on February 26<sup>th</sup>-27<sup>th</sup> Feb, 2021 organized by Association of Engineers and Technocrats, FoE, SGT University, Gurugram, Haryana, India.
- Dr. Joginder Singh coordinated the webinar “**3D Printing - Driving the Future of Automotive Industry**” on 04 June 2021.
- Dr. Shruti Vashist delivered an expert lecture in a Webinar on 15.5.21 conducted and Organized by **the Institution of Engineers (INDIA), IE (I) which is** an All India Organization working towards promoting advancement of Science, Technology and Engineering Knowledge. The occasion was World Telecommunication day and the topic was Accelerating Digital Transformation in Challenging times.
- Vijay Kumar Gill mentored Students from Class 9th to 11th under the program RUSH, Summer School internship program organized by MREI on MIT Inventor platform from 14th June 2021 to 21st June 2021.
- Delivered an expert talk as a resource person on ‘Social Emotional Learning’ on 25<sup>th</sup> February 2021. The talk was delivered for the newly promoted headmasters in Government Schools of Haryana and the program was organized by School Leadership Academy, SCERT Gurugram.
- Delivered an expert talk as a resource person in the national webinar on “Universal Human Values: Dire Need of the Hour” conducted by K. R. Mangalam University, Gurgaon on 19<sup>th</sup> April 2021.
- Dr Manmeet Bali Nag Disseminated a session 31 Jan 2021 in capacity of Innovation Ambassador at E-Cell IILM Gurgaon, on the topic “National Education Policy & its Implications for Innovation & Entrepreneurship.
- Dr. Pragati Chauhan, was Resource Person for the New Venture Creation and Design Thinking Workshop session under The Right approach to Understanding Student Higher Education (RUSH) program
- Dr, Animesh Singh, was Resource Person for the Business Analytics session under The Right approach to Understanding Student Higher Education (RUSH) program.
- Dr. Priyanka Singh, was Resource Person for the Healthcare Management session under The Right approach to Understanding Student Higher Education (RUSH) program.
- Dr. Vandana Zutshi Bhat was Resource Person for the Operations Management session under The Right approach to Understanding Student Higher Education (RUSH) program
- Dr. Sachita Resource Person for the Financial Modeling session under the Money Rush.
- Dr. Subodh Saluja was RUSH MENTOR for Money RUSH

- Dr. Sachita Yadav Session Chair for Technical Session-3 at the 2-Day Virtual International Conference on "EMBRACING CHANGE & TRANSFORMATION-BREAKTHROUGH INNOVATION" held on 11th and 12th June, 2021 on Virtual Mode, K. R. Mangalam University.

### 5.3 Webinars & Workshops Organised

- Mr. Shivam Gaur organized a Legal Aid camp from 18th Feb and 25<sup>th</sup> Feb, 2021 and on 4th March and 25th March 2021.
- Ms Chaitali Wadhwa conducted Legal Vignette: Online Case presentation competition on 27th to 28th Feb 2021.
- Mr Shivam Gaur organized a Legal Aid camp from
- Joginder Singh coordinated the webinar “**3D Printing - Driving the Future of Automotive Industry**” on 04 June 2021.
- Faculty of Education and Humanities organized a National Webinar on “Stress Management during COVID-19 Pandemic” at Manav Rachna University on 22<sup>nd</sup> April 2021 for the students of MRU.
- DMC organized Webinar on “**Healthcare and Fitness**” at Manav Rachna University on 18 Sept. 2020 for the student of MRU.
- DMC organized Webinar on Topic "**Expectations of Industry from freshers** on 18th December, Speaker was Mr. Sanjeev Sharan working with ZTE Corporation as Director HR.
- DMC organized Guest lecture on the **topic Marketing Transformation during Covid 19** on 3rd Feb 2021. Mr. Hitesh Kakar enlightened the students with his 23 years rich professional experience in organizations like Tata Group, Network 18, Magus, Customer Dialog, Bharti Airtel and CPM India.
- DMC organized Webinar on “**Budget 2021**” on 4th of February 2021 .CS Nikhil Midha was invited as the guest speaker who shared some really good insights on the Budget 2021 and its relevance in our lives and on the economy as a whole.
- **DMC organized Guest lecture on the topic Importance of Literature Review in High-Quality Research** on 13th Feb 2021 Dr Sunita Bishnoi consented to be the speaker and enlighten the scholars with her 18 years of rich experience in Research and Teaching.
- **DMC organized Webinar on Topic** "Changing landscape of HR in pre and post times & Role of analytics in HR on 23rd February 2021 .Guest Speaker, Mr. Sushil Tripathi was Head HR- Oswal Industries Limited.
- **DMC organized Webinar on Topic-Behavioral Science of Marketing;** on 25th February 2021 Guest Speaker is Mr. Shoury Gupta is Head of Marketing at ValueFirst.
- **DMC organized Webinar on Topic“Corporatization of family business” on 3rd March 2021.** Guest Speaker was Mr. Arun Bhardwaj – Careers Success and Career Coach.
- **DMC organized Webinar on Topic: Changing landscape of family business" on 01 March 2021,** Guest Speaker was Mr. Arup Sengupta the President of Human Age Consultant Pvt. Ltd.

- Workshop on - **EViews and SPSS** on 15th May, 2021 through online mode. The session covered data analysis like descriptive analysis and correlation analysis.

#### 5.4 Certifications Earned by Faculty:

- **Dr.Savita Sharma** completed the following MOOCs offered by Canvas Platform by Plagiarism: Concept and Precautions, Basics of Pedagogy under UNESCO – OE4BW online mentoring programme August, 2020.
- **Dr. Rashi Banerji** received Elite + Silver award certificate in 8 weeks Behavioural and Personal Finance course by NPTEL (AICTE approved FDP) with 86% in December, 2021.
- **Ms.Niharika** from ECE deptt completed three courses successfully with certifications on Electric Power Systems, Understanding Research Methods and Linear Analysis-DC Circuits in May 2020.
- **Ms.Yogita** from ECE Deptt. Completed three courses successfully with certifications on Understanding Research Methods, Linear Analysis-DC Circuits in June 2020.
- **Ms.Meenakshi** from ECE deptt completed eight courses successfully with certifications from coursera online platform & one certificate of e-quiz: IoT (Internet of Things) Wireless & Cloud Computing Emerging Technologies from Yonsei University with Grade Achieved: 78%. (6 weeks) in June 2020
- **Mr.Bhanupratap** from ECE deptt successfully completed the certification course on Introduction to MATLAB through Coursera from Vanderbilt University and COVID-19 Contact Tracing from Johns Hopkins University in June 2020.
- **Ms.K.Deepa** from ECE deptt successfully completed the certification course on AI for everyone through Coursera authorized by Deep learning in June 2020.
- **Ms. Nitika** from ECE deptt completed two courses successfully with certifications; Understanding Research Methods through Coursera authorized by University of London and SOAS University of London. She also completed AICTE Sponsored Online 5-days FDP on Universal Human Values from 22nd March to 26th March, 2021.
- **Ms. Gaganjot Kaur** of CST Deptt. received Mentor certificate for the Jan-Dec 2020 semester for IOT course on 24th March 2021 from NPTEL.
- **Mr. Agha Imran Husain** from CST deptt successfully completed course on “Cybersecurity in Healthcare (Hospitals & Care Centres)” Completed 5 Weeks Course Certificate with 91%
- **Mr. Joginder Singh** from Mech deptt has successfully completed the NPTEL Online Certification of “**Processing of Polymers and Polymer Composites**” with a consolidated score of 94%. He was in Toppers 5% and received the **Gold Medal**.
- **Dr. Animesh Singh** from DMC Dept. successfully completed 2 days workshop on EFA, CFA & CCA – 26-27 Sept’2020.and 1 day workshop on IndiaSpark Live talk show on "future of Jobs & Technology Platforms. **He also** attended a seminar on Quality & Excellence Issues in Higher & Technical Education by Prof. R Natarajan.



- **Dr. Pooja Kapoor** from DMC Dept. successfully completed 5 days AICTE TRAINING AND LEARNING (ATAL) ONLINE FDP FDP ON "LEADERSHIP & EXCELLENCE" in Sept. 2020.
- **Dr. Subodh Saluja** from DMC participated in Participated in Webinar on Quality and excellence Issues in Higher & Technical on 30<sup>th</sup> Oct, 2020.
- **Dr. Manmeet Bali Nag** from DMC from Participated in ET Women Economic Forum in Oct, 2020 and attended sessions of IP Literacy Week being celebrated under KAPILA program (Kalam Program for IP Literacy and Awareness) in Oct, 2020.
  - Reviewer for Chapter series in Book titled "Big Data & Entrepreneurship" by CRC Taylor & Francis.
  - Resource person in Webinar on "Domestic Violence against Women during Pandemic" under the aegis of DMC-CPS MRU, March, 2021.
  - Resource person & Organizer at Business Idea Generation Session by IIC Chapter at MRU, March, 21
- **Dr. Rashi Banerji** attended Virtual National Conference Attaining Financial Capability through Sustained Investment in Nov, 2020 and has completed CRM course by NPTEL (AICTE approved FDP)-Received Elite + Silver award certificate in Dec, 2020.
  - Received AICTE APPROVED FDP FROM NPTEL- April, 2021.
- **Ms. Srishti Batla** attended Live Masterclass on Patent Strategy conducted by Turnip Innovations, March, 2021.
- **Dr. Animesh Singh** attended National Webinar on Promoting Academic Integrity and Prevention of Plagiarism in Higher Education Institutions organised by Research Cell of Guru Nanak Khalsa College, Yamunanagar, in association with Turnitin South Asia, April, 2021
- **Dr. Sachita Yadav** attended National Webinar on Analytics of Commerce, Organized by Ganpat University, April, 2021 and reviewed a Paper for "Journal of Advances in Medicine and Medical Research".
  - ✓ Received Letter of Appreciation from NEN Wadhvani foundation as Global Jury to evaluate student practice Ventures on the You Noodle Platform, on 26<sup>th</sup> June, 2021.
- **Dr. Animesh Singh, Dr. Rashi Banerji and Dr. Sachita Yadav** attended The Internal Quality Assurance Cell- MRU organized a workshop on "Learn-to-storytell Your Research" for faculty members as a measure of quality improvement initiative in June, 2021.

## **CHAPTER – 6**

### **OUTREACH & PROFESSIONAL ACTIVITIES**

#### **6.1 Student Activities & Achievements**

University life marks the beginning of one's career and requires one to make mental, physical and emotional adjustments. MRU's unique educational system ensures that students gain not just depth and breadth in his/her chosen area of specialization, but a holistic set of skills that will equip them to face the real world. At every stage, there will be opportunities to expand boundaries, platforms for collaboration and learning, and recognition for those who strive to excel.

The University believes in excellence and above all, to produce tomorrow's leaders, mature well-rounded individuals who will lead, actively participate and contribute to society. Department of Student Welfare (DSW) is a student care and supervision center that serves as a liaison between students and administration. The Department also seeks to challenge students to become responsible and productive citizens of society and to support the University's educational and administrative goals to enhance or address aspects of the entire student experience.

The student chapters of IEEE, SAE, ISHRAE, ASME, GCNC, NEN at MRU makes the students aware of the emerging technologies and international trends in the field of Engineering, Sciences, Management and Humanities.

Students at MRU are very much involved in various community services like no one sleeps hungry, cleanliness drives, blood donation camps, creating awareness on health & hygiene, promoting education by teaching students at various Government schools and schools run by NGO's. All these activities are carried out in close association with Dr. O P Bhalla Foundation, Leo club under the advisory of Lion Club of Faridabad, Prakashdeep NGO and Datri blood stem cell donors' registry an organization that offers a dedicated service for blood stem cell donation. Student's participation in these activities instills in them the lifetime commitment of helping others and understanding their duty towards the society.

Student's participation in various activities of these clubs and their representation in National & International level competitions have brought many laurels to the University.

#### **VARIOUS SOCIETIES / GROUPS**

At Manav Rachna, students are spoilt for choice as there are many Extra Curricular Groups that cater to varying interests. "Each of these groups provides students a platform to showcase their talents and channelize their energies. They also foster a sense of fellowship among students of different streams and give them a great sense of cohesiveness and belonging," Each of the groups provides students a conducive environment to plan and execute various activities, thus contributing to their holistic development and staying connected with members of similar interests. Here, we give you a look into their form & character:

**Music Group "MOKSH"**- This group covers activities like solo, duet and group singing, jugalbandi, battle of bands, folk music, sufi, classical, Western music, instrumentals, parody etc. Students can also look forward to jamming sessions and music festivals.

**Dance Group “RUDRA”**- This group has woven in solo and duet dance performances, group dance, Western dance (salsa, jazz, street etc.), traditional and folk dance competitions/festivals in its repertoire.

**Literary Forum” REHNUMA”**- This forum involves activities like debate and declamation, MUN, youth parliament, quiz and GK, poetry, article writing, book reviews, film reviews, literary festivals, TV anchoring and news reporting, panel discussions, storytelling competitions.

**Theater Group” KHALBALI”**- ‘Khalbali’ has the most versatile pool of talent. From heart touching to nerve-wracking delivery of dialogues, the students have made our University proud on every platform.

**Fine Arts Group “FELICIA”**- This group brings out the artist in every student encouraging them to indulge in sketching, painting, clay modeling, pottery, cartoon and caricature making, tattooing, sculpture and rangoli.

**Fashionistas “NOORA”**- As the name signifies, this group is all about glamour and beauty, focusing its activities on hairstyling, beauty contests, ramp walks, best dress, crazy caps, fashion shows, display/ tableau competitions, fancy dress, character display (based on an era, writings), etc.

**Photography Club DRISHTI**- This cluster pampers students' passion for photography, film making, video-graphy and photo walks. Workshops by canon, theme based photography and exhibitions are also a regular feature.

**Sports Club ATHELITES**- Every University is incomplete without its extremely talented athletes and players. Our sports team has achieved laurels in various sports activities in different colleges like BITS Pilani and represented Manav Rachna University throughout NCR.

**Technical Society TECHSOUL**- From the latest gadgets to apps to technology, the tech society of MRU manages to cover it all. Our goal is to give students a chance to showcase their technical skills on various platforms, organizing events, and attending competitions.

**Gaming Club GAMENIX**- Online gaming has reached an all-time high. Even the biggest organizations have started to pitch in and invest in the gaming world. Our society is something new and is getting better day by day. Start your gaming journey with us and enter into a world of thrill, adrenaline and adventure.

**CSR LEO CLUB:** Corporate social responsibility (CSR) society aspires to become a Centre of Excellence through a series of collaborations with NGOs and government agencies for CSR projects on thematic areas such as health, education, environment, and community development.

To get the students engaged and trained for the passion they pursue and to promote Institution social responsibilities, Clan was formulated in MREI. To strengthen the Clan activities, Institution Wise slots were allocated for all societies mentioned above .Thursday is allocated for Manav Rachna Life Skills Program.

The accolades and achievements of students across various verticals are summarised here.

## 6.2 Technical Activities

Under technical societies of Manav Rachna University various activities are conducted

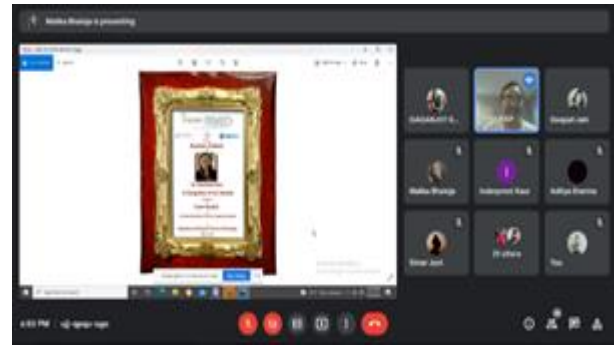
### IEEE Society

The department of Computer Science and Technology in association with IEEE organizes and conduct many events. IEEE MRU Student Branch have been honored with prestigious awards for outstanding work in 2020, in IEEE Delhi Section Annual Award Ceremony 2021 organized virtually at Delhi Technological University.

- Mr. Karan Rajoria, Btech CSE Final year, Post Chairperson, has been felicitated with two awards “Industry Relation Coordinator” Award for his contribution in IEEE Delhi Section Student Network in 2020-2021 and “Outstanding Student Volunteer” Award for showing outstanding courage towards IEEE MRU & IEEE.
- Mr. Parikshit Sharma, Btech CSE Final year, Past vice-chairperson was awarded with “Outstanding WIE Student” Volunteer Award for his selfless service and dedication towards IEEE MRU.

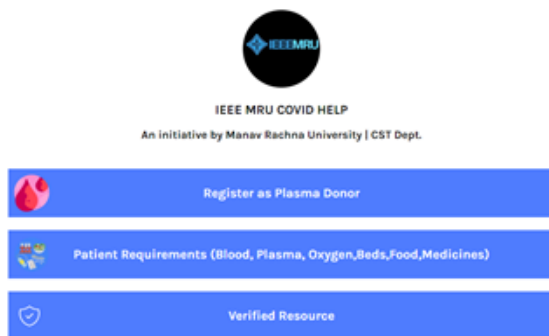


- Webinar on "The Fascinating World of Artificial Intelligence: Are we forgetting something?" was organized on 26th July 2021. Dr. Iqbaldeep Kaur (Researcher, Doctorate, Creative person, and Information System Analyst for BC Public Service, Canada) was invited as a speaker for this thought-provoking talk on the amazing wonders of contemporary technology

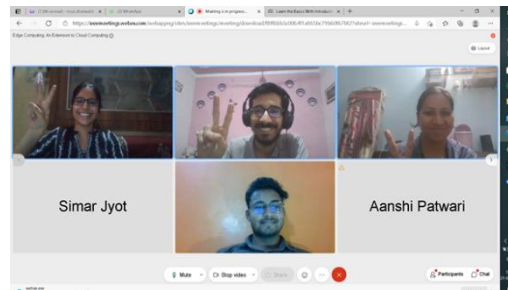
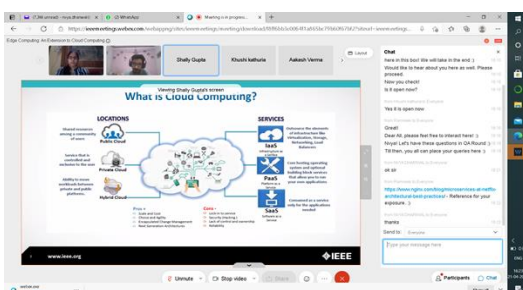


## IEEE MRU organized and conducted many webinars and activities

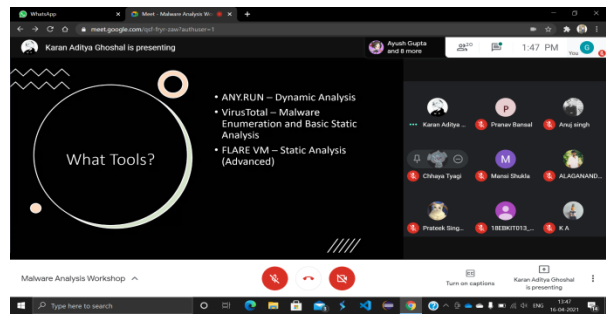
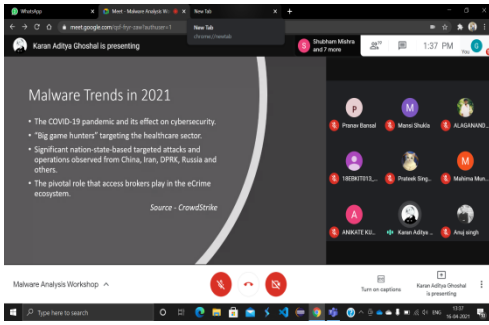
- CYBER CHARCHA, on 11th July 2021 by Department of Computer Science & Engineering.
- Webinar on the topic of Machine Learning on 26th June, 2021 a WEBINAR CUM SESSION through DuCAT.They discussed their interests ,asked questions on various topics such as Algorithms, Rules, Language to be chosen for this field
- Came up with the idea (SANGHARSH) of helping suffering people during this covid-19 pandemic.



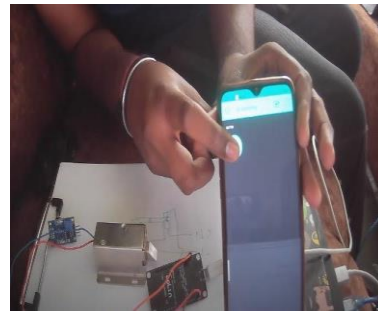
- Organized a session for the student of B.Tech CSE, MRU on EDGE COMPUTING on April 21, 2021.The expert of the session were Ms. Shally Gupta and Mr. Ramneek Kalra.



- Organized a session for the student of Computer Science & Engineering on malware analysis on April 16, 2021. Speaker for the event Karan Aditya Ghoshal (Jr. Cyber threat intelligence Analyst at KPMG-EDGE). The session commenced by the introduction regarding malware analysis.

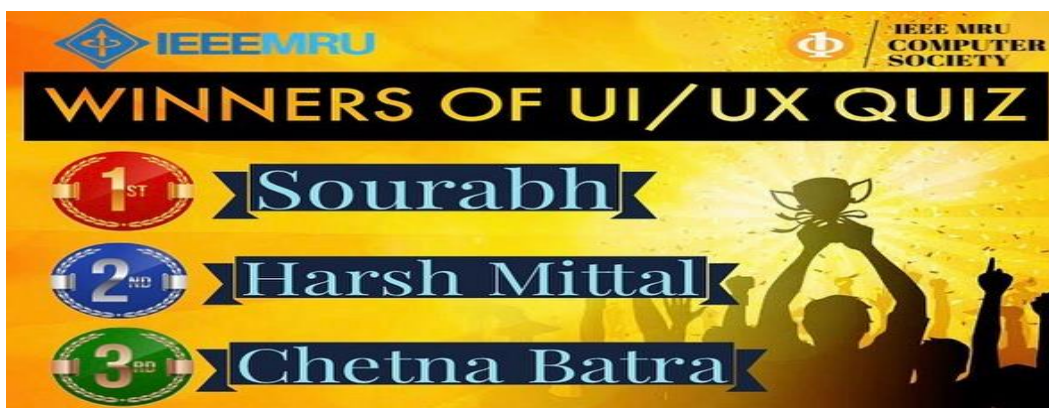


- Organised event for Networking named "Let's Learn to Network",
- QUIZ ON "Competitive Aptitude" on 13 December, 2020.
- Quiz on "Wireless Network Security". On 12th November, 2020.
- 40hrs session on Web development, on 23 October 2020 in which students got full course access of their HTML/CSS course



On 17/10/2020, IEEE MRU organized HackMRU for students to showcase their technical skills and innovative ideas to change the world. This was a 24 hours hackathon in which students from all over the country and also from different universities from the UK, Nigeria, Romania, Oman & USA. Students used different technologies in their projects such as IoT, AI, ML, AR, Blockchain, and submitted their projects on the 18th of October via Devpost.

Creativity is the root to best DESIGN IEEE MRU conducted Quiz on - UI /UX DESIGN on 13 September, 2020.



### Society of Automobile Engineers society/Altair/ISHARE

Himanshu Kaundal, Founder at Insights Auto Tech Consultants and Co-founder of Fovila services LLP, conducted a Webinar on “Working of a Car Engine” on 20<sup>th</sup> Jan 21 for 2<sup>nd</sup> yr Smart manufacturing and Automation students.

- 2 days training programme for ME faculty members and students by CYPE Software on Introduction to BIM software (Architecture, MEP, Thermal Analysis) on 14<sup>th</sup> April and 21<sup>st</sup> April, 2021
- Organized a webinar on “Introduction to Robotics and Automation” in collaboration with ECE Department on 22<sup>nd</sup> April 2021.
- WEBINAR ON “3D Printing- Driving the future of Automotive Industry” on 4<sup>th</sup> June, 2021 by Altair Experts for faculty members and students.
- Two days workshop was conducted virtually by Capricot Technologies Pvt. Ltd. on “Autodesk Fusion 360” on 14-June and 15-June 2021, Objective of the workshop was to give exposure to the latest CAD software. **Mr Prashant** Kundnani, Solution Specialist – MFG Capricot Technologies Pvt. Ltd. was the trainer for the workshop.
- Organized a Guest lecture on the topic “Introduction to Computational Fluid Dynamics and its applications” on 16<sup>th</sup> June 2021. The lecture was delivered by Mr. Vignesh Lakshmanan, DesignTech Systems Pvt. Ltd.

### **6.3 Achievements in Extra Curricular Activities:**

Besides Technical Societies, under cultural societies students participate in various activities at inter and intra college level.

- Ms. Manisha Arya a student of B.Sc. B. Ed. Semester VII has received a National ICON award from Global Records and Research Foundation on 15th July 2020 for her contribution for Promoting Yoga.
- **Ananya Julka B.Sc.6<sup>th</sup> sem –chemistry(2018-2021):**
  - Bagged First **prize** at National Level Online Presentation competition hosted by Aggarwal College, Ballabgarh on 30-02-21.
  - Won **second prize** at national level essay competition hosted by the science society of Hindu college, University of Delhi, in Scientia '21 on 2<sup>nd</sup> March 2021.
  - Stood **first** in the road safety quiz held by NSS, IIT, Roorkee, 17-02-21.
  - Stood **third** in the intercollege, “Onco Quiz” organised by IChE chapter VIT, Vellore (held on 5<sup>th</sup> feb, 2021)

- Mr. Shrey Bisht, student of B.Sc.(H) Mathematics(2020 – 23), II semester volunteered in the Shooting World Cup for Rifle/Pistol/Shotgun in Dr Karni Singh Shooting Range Tughlakabad, New Delhi hosted by India from 18th to 29th of March. About 300 athletes representing 53 nations participated. Manav Rachna was proud to be a partner in this event.
- Namrata, student of BABEd Sem 8<sup>th</sup>, has been selected as an official delegate in a Global Youth Conference held in Jerusalem. She represented India in ‘Disarmament and International Security’.
- Ena Manchanda, student of Management was the winner of sub- category of Mr. & Miss royal star India 2K21 and received the best walk title which was judged by Tanya Sharma (TV actress) Sagar Anand and Nitin Ahuja (MTV love school).
- Jishnu Bakshi, 8th semester student volunteered for Haryana State Legal Services Authority camp at the Punjab and Haryana High Court in February 2021.
- Priyanka Walter, 4th semester student of LAW assisted in organising Charcha/ Law Dialogue on the occasion of Gender Championship Week, in collaboration with Manav Rachna Peace and Sustainability Club on March 10th, 2021.
- Priyanka Walter, 4th semester student of LAW assisted in organising “Chose to Challenge” event on the occasion of Gender Championship Week, in collaboration with Manav Rachna Peace and Sustainability Club on March 11th, 2021.
- Ishika Goel, 4th semester student of LAW assisted in organising Charcha/ Law Dialogue on the occasion of Gender Championship Week, in collaboration with Manav Rachna Peace and Sustainability Club on March 10th, 2021
- Ishika Goel, 4th semester student of LAW assisted in organising Charcha/ Law Dialogue on the occasion of Gender Championship Week, in collaboration with Manav Rachna Peace and Sustainability Club on March 10th, 2021.
- Urvi, 8th semester student of LAW secured a position of merit in the 2nd National Legal Quiz- Word Competition held by Lex Humanitariae Journal for Change on 17th and 18th April, 2021.
- Public Interest Litigation filed by Jeetender Gupta, LLM student in Delhi High Court seeking direction to provide interim custody of children orphaned due to COVID-19- news published in TOI on 08.05.2021.
- **Gauri Verma**, student from B.Tech CSE grabbed the 2nd position in online group discussion on "Air pollution and its mitigation" on 31 Jan 2021 in Environment Youth Forum 2021, Region Level, Zone1 online competition organized by Prayavaran Sangrakhan and Ashoka University.
- **Minhajul Hossain**, student of B.Tech CSE has been selected as mentor for the event GirlScript Summer of Code 2021 by GirlScript Summer of Code Team.
- **Mr. Rahul Thakur**, student of BTech CSE 8th SEM has been recognized as NPTEL Discipline Star for his Six MOOC Courses in Computer Science & Engineering Discipline where each course ranged between 8 to 12 weeks.
- **Mr. Parag Kumar Garg**, student of BTech CSE 8th SEM has been recognized as NPTEL Discipline Star. He completed Eight MOOC Courses in Computer Science & Engineering Discipline where each course ranged between 8 to 12 weeks.



- **Mayank Saxena**, student of BTech CSE with Data Science & Machine Learning 4th SEM grabbed the opportunity of Intern (Graphic Designer) with Xebia.
- **Rohit Aggarwal**, B.Tech. (CSE) 4th semester student of MRU has bagged third position in 2D Art competition on the theme “Relive the Creators”, organized by IPR Cell Manav Rachna University (MRU) to commemorate the World IP Day.
- **Hemang Chauhan**, B.Tech. (CSE) 4th semester student of MRU has stood first in Logo making competition, organized in the month of February, 2021, by Manav Rachna Centre for Peace & Sustainability.
- **David Anand Levi**, B.Tech. (CSE) 4th semester student of MRU has bagged first position in RISE WITH TALENT-PHOTOGRAPHY competition, organized in the month of April,2021.

**Karan Khanduja** ME-SMA 2nd SEM student, participated in “The Ultimate sprint series - Golf tournament” on 12th Jan 2021.

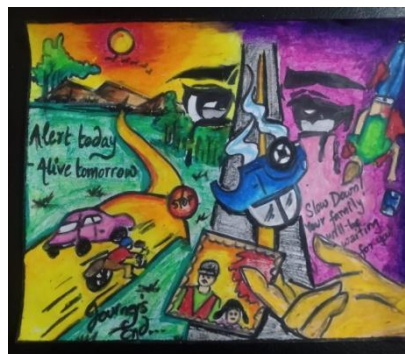
- Came runner-up in “PGTI-Professional golf tour of India” on 20th Mar 2021.
- **Ankur** got the 3rd Position in “Go-Kart Design Competition” organized by Department of Mechanical Engineering & Automobile Engineering, held on 28 April 2021 at IILM College of Engineering & Technology, Greater Noida.
- Fundamental Examination” through Altair University during Summer Training.
- All **27 students** of B.Ed. Semester II (2020-22) attended the online workshop on "Digital Literacy" on 30th April 2021, organised by Awadh Institute of Vocational Studies affiliated to GGSIPU and SCERT Delhi.
- **Jishnu**, student of BBA Operations Management from Department of Management and Commerce completed an internship in “YEF” Youth Empowerment Foundation as a volunteering intern. This platform provided him an opportunity for collecting funds for the betterment of Covid Warriors and contributing to society.
- Student **Aviral Bhola** Completed Technology Consulting Virtual Internship in Deloitte from InsideShrepa. It took him to complete all their tasks in total of 7days (168hrs) in topics:- Critical Thinking, Industry Research, Feasibility Assessment, Value Assessment, Project Planning, MarketScan Research, Communication, Presentation Skills.
- **Rahul Sihag** of DMC participated in State level Haryana Rifle Association

## 6.4 Events Organised

- **Road Safety (Poster Making Competition):** Clan forest Rhino in association with the Department of student welfare organized a poster-making event on the 9th of February 2021



1st Shaniya bano



2<sup>nd</sup> Abel Varghese



3<sup>rd</sup> David Anand

**MONOCREATE COMPETITION:** Drishti- Media society of Department Of Student Council (DSW) Manav Rachna University organized an online Photography Competition named MONOCREATE



**Patriotism (Poetry Competition):** The event was organized so that participant could express their thought in form of poem for the Pulwama Martyrs and to give tribute to the Pulwama Martyrs and to develop the feeling of patriotism among the youth. About Pulwama attack.

Few of the student's creations

- Advait anand

पुलवामा में जब आतंकी हमला हुआ, छलनी देश का सीना हुआ | शायद सर्जिकल स्ट्राइक भूल गया था हमारा पड़ोसी, कहाँ पता था उसे, छाने वाली है उसके मुल्क में किस प्रकार की खामोशी | मतवाला था माँ का वो लाल, जो मौत से प्यार करता था.....

- **GREENIFY:** Drishti - Media society of Department of Student Council (DSW) Manav Rachna University organized an online Photography Competition named GREENIFY. The event commenced on 23<sup>th</sup> Feb, 2021 for 5 days.



- **Know Your Rights:** Parashakti in collaboration with Rehnuma, literary society organised quiz competition on 9th march 2021 on the occasion of women's week (week gender championships).

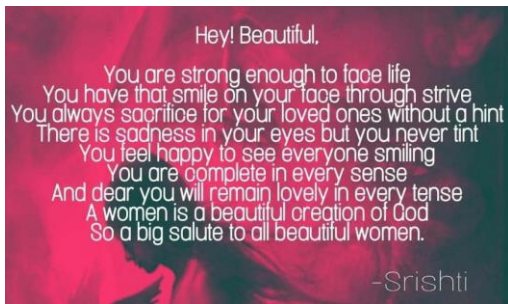
### Quiz competition



- **It's not US Its You:** Team AADYA organised Radio show campaign, 'IT'S NOT US IT'S YOU' on the occasion of Women's Day and honour of Gender Champion Week.



- **Hashtag:** Team Aadya organized a Hashtag Campaign from 8<sup>th</sup> to 13<sup>th</sup> March 2021, and it's main aim was to create awareness and to know about the views of the public regarding their perspective of women.



- **Choose To Challenge** - Manav Rachna Peace and Sustainability Club in collaboration with the Law Department organized “Choose to Challenge” on 11th March, 2021. The event began with watching two short videos on patriarchy, gender stereotypes and how it affects as well as plagues Indian society and mindsets of people. All the participants shared one or two gender stereotypes which they face on a day to day basis and what they think should change in the society with respect to social, psychological stereotypes faced by males, females and by persons who identify as LGBTQIA+.



- **Importance of Women in our Life:** Team “AADYA” organized an online ‘Write-Up Competition (Dare 2 Aspire)’ on the theme “Importance of Women in our Life” and to write a positive quote/message that they would like to convey as a wave of happiness.

**Sample of Write Up**

Kamna Sagar

Name- Kamna sagar

PHD scholar, Jawaharlal Nehru University, New Delhi

Email-ID: [kamnagr@gmail.com](mailto:kamnagr@gmail.com)

My inspiration story: My mother is my saint (with mother on my mind)

"Strong, Independent and Hard-working"

These are the words that strike a chord when I consider my mother. Bringing two young ladies up in a solitary parent family was not in every case simple for her, however allowed let nothing to hinder being the best mother, the best model, and the best saint that she could be.

Experiencing childhood in a solitary parent family myself, I saw my mother battle in an unexpected way, in any case, that didn't mean she was any to a lesser degree a mother or didn't accommodate my sister and I in the manners she should. Since my mother worked so a lot and my sister and I were engaged with numerous games growing up, she would barely possess energy for herself since she was continually driving us to and fro to our various exercises. I recollect explicitly when we were around 9-years of age; my sister and I were associated with swim and soccer. My mother would get up right on time to make breakfast and lunch, take us to class, go to work, and when she got off work she would race to get us from school. We would have consecutive works on, racing to soccer practice after swim.

Recollect how tired she used to be by the day's end. She would awaken around 5:30 a.m. what's more, wouldn't be home until around 8:00 or 9:00 pm. She not even once griped. My mother gave, and keeps on giving, my sister and I all that she can, regardless of whether it implies having less things for herself. She would prefer to get us all we required for our extracurricular exercises, new garments for school, take us on film dates toward the end of the week, and so on than spend a dime on herself.

At the point when I was more youthful, I used to chip in at my mother's school while I was on vacation or school breaks. Addressing the small kids, just as certain educators, I discovered that my mother, as I expected, was all around regarded and everybody talked profoundly of her. This consoled me that not exclusively was my mother emphatically affecting my life, yet additionally the existences of the relative multitude of small kids around her. Some of them even called her "Mother." Not just was she my saint, she was theirs as well.

My mother never discarded the garments that my sister and I would outgrow on the grounds that she needed to offer them to the children at school who were battling monetarily. She is the most sacrificial individual I know and she moves me consistently. She generally considers others before herself and tries to offer back when she can. She is an extraordinary illustration

- **DIY PHONE CASE COMPETITION:** The event was organized so that the participants will be able to show their skills on a phone case based on the theme provided to them. THEME OF THE EVENT: "Aesthetic".



**Karavaan Fest:** Karavaan ,a four day literary Fest was organized from 5<sup>th</sup> to 8<sup>th</sup> May 2021 by Rehnuma, the official literary society of MRU. Many events like brainstromer, Guess the Gibberish, Read Aloud, I Bet my Friend ,Emoji Hustle ,Minute to win it, Incredible memory, Holly Bolly mania, Humanity and Divinity.

**JAZBAAT:** Article writing competition was organized by PARASHAKTI ASSOCIATION UNDER PEACE AND SUSTAINABILITY CENTER OF MANAV RACHNA on 23rd November 2020,

The themes for the competition were-

1. Avoidance from society
2. Role/importance of transgenders in society
3. How to bring equality in the mindsets of people.

**PRAGYA:** On the occasion of DIWALI POSTER MAKING COMPETITION, was organized on 11.11.20.

The theme for the same were

1. Know about the hidden \_raawans\_ of society.
2. Stop ignoring the \_sita\_ behind you.

**Vigilance Awareness Week 2020 (27<sup>th</sup> Oct to 2<sup>nd</sup> Nov 2020:** The awareness week was organized from 27th October, 2020 to 02nd November, 2020 under the theme "Satark Bharat,

Samridhh Bharat to celebrate the birth anniversary of our legend Sardar Vallabhbhai Patel. Department of Student Welfare, Manav Rachna University organized various events like essay writing on “**Anti Bribery And Corruption and What is more important for Healthy democracy -A strong Govt. of a strong opposition**”,**Poster making and slogan writing on the theme** Satark Bharat, Samridhh Bharat

**Topics under the given theme (participants were supposed to choose only one):**

- Rape culture
- Feminism vs Fake feminism
- Gender Stereotype
- Aatmanirbhar Bharat

Logo design competition was organised on the 29th of October, 2020 for an imaginary security force named KEKA.

**Teachers' Day Event 2020: Pehla Guru:**The theme provided was “Tribute to the first teacher in your life”.The participants were supposed to showcase their creativity and give a tribute to that very first person or thing that has a great influence on their life, be it in the form of a dance performance, a song, a piece of art (digital or handmade), a poem/shayari, or a monologue. The participants were super enthusiastic and co-operative.

### **Talent Hunt**

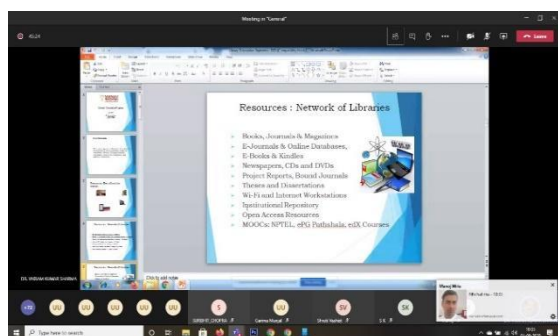
On the 10th of September, 2020 the Department of Students' Welfare, MANAV RACHNA UNIVERSITY conducted a talent hunt under the orientation programme for the new batch of 2020. The event was full of fun activities which were put together by the students of second year to welcome the first year batch and have an open and lively interaction with them.

## **6.5 ORIENTATION 2K20**

An Orientation Programme was organized to welcome the First Year Engineering, Sciences, Law, Education and Management students to the Manav Rachna family. The 3-week programme was conducted to accustom the students with the work culture at the University. The programme commenced in the online mode due to Pandemic Covid-19.The session covered the introduction of various processes and systems in academics.The new entrants and their parents were welcomed, and a presentation was exhibited, giving those glimpses of the galaxy of Manav Rachna Educational Institutions, the regulations and the academic philosophy of the Institution. To create a sense of belonging towards the University, an introduction session of all the Deans, Director’s, HODs, Faculties and Administrative staff was given to the new entrants.

As a unique blend of learning, fun and realization, the programme aimed at providing a smooth transition for the students into the new environment. Various bridge courses were run for the students to give them introductory knowledge about the departmental as well as interdisciplinary courses. Industrial talks were planned for the students where the Industry experts shared their technical expertise and the increasing Industry demand for good Engineers. In addition to this, alumni talks were organized who shared their experiential learning at Manav Rachna University and their journey thereafter. The Corporate Relations and Career Management Centre team briefed the students about their placement prospects. Various extra-curricular activities were also planned in the online mode for the holistic development of the new entrants. Literary, performing arts and sports activities were organized to develop a competitive spirit among the students. A concluding session was

delivered by our Honourable Vice Chancellor, who motivated the students and enlightened them with the ethos of perseverance and self-belief.



## 6.6 Sixth Convocation Ceremony

The Convocation of 2020 remained a day of great joy and exhilaration for the graduands and their parents who went down the memory lane, reminiscing university days while reuniting with their friends and Alma mater. Padma Vibhushan **Dr. Krishnaswamy Kasturirangan**, Former Chairman, ISRO was the Chief Guest on the occasion, in the presence of Smt. Satya Bhalla, Chief Patron, MREI; Dr. Prashant Bhalla, President, MREI; Dr. Amit Bhalla, VP, MREI; Dr. I K Bhat, Vice Chancellor, MRU; Dr. Sanjay Srivastava, VC, MRIIRS; Several veterans from the academic, corporate, government and administrative bodies were present for the occasion. This was the sixth third convocation of Manav Rachna University. President's Medal, Vice President's Medal, Patron's Medal, Vice Chancellor's Medal, Student Leadership medals and Outstanding Academic Achiever medals were bestowed upon students on the occasion.

On this solemn occasion, MRU also bestowed Honoris Causa degrees upon 6 stalwarts including Padmashri **Dr. Sri kumar Banerjee**, Chancellor, Homi Bhabha National Institute; **Sh. Deepak Bagla**, MD & CEO of Invest India; **Sh. Krishna Murthy Shankar**, EVP, Infosys; **Prof. (Dr.) Hari Prakash**, Former Chief, Center for Dental Education & Research, AIIMS; **Sh. H K Batra**, Chairman, Perfect Bread; and **Prof. (Dr.) Asim Das**, Dean, ESIC Medical College & Hospital, Faridabad who were also the Guests of Honour on the occasion. While congratulating all the graduating students, the Chief Guest Padma Vibhushan **Dr. Krishnaswamy Kasturirangan**, Former Chairman, ISRO said While speaking on the occasion, Dr. Prashant Bhalla, President, Manav Rachna Educational Institutions urged the students to be honest while maintaining the virtues of patience and passion.

The presence of the distinguished alumni of MRU made the day even more special. The flag of the alumni association was formally handed over to the newest members of the Alumni Association on this august occasion.

The ceremony was held in a combination of offline and online events following strict Covid protocols.



## 6.6 Alumni Network

MRU also has an Alumni Association to cater the needs to future students and establishing an everlasting relationship with our Alma matter. Manav Rachna Alumni Association organized a series of Alumni Events, Lectures for the current students during the year. Purpose of this interaction is to make the student aware of culture in the industries, options available to students after B Tech, latest technological trends/ upcoming technologies in the relevant streams and to motivate students about progressing from university life to professional life keeping hand in hand with the basic attributes of life which are time management and positive attitude.

### Alumni LECTURES

- On 28th January, 2021, **Gautam Ahuja**, alumni 2019 (MRU-First batch), Mechanical Engineering Department, who is presently working as Research Engineer at Avishkaar, gave an online presentation on Robotics and automation. He currently provides training to teachers and students in schools and also to different professionals all over India in Robotics, Automation and coding.



- On 24th February, 2021, Mr. **Mohit Solanki**, alumni 2017 (MRCE- 2017 batch), Mechanical Engineering Department, who is presently working as Design Engineer at Mahindra defence systems located in Prithla (Haryana) gave an online presentation on design of MPV (Mine Protected Vehicle).
- Department of Electronics and Communication Engineering, Manav Rachna University organized an Alumni Interaction with our Alumnus Mr. Raghav Rastogi and Mr. Dhruv Sharma on 15th April, 2021 on the topic “Scope of VLSI and EDA domain”.Mr. Raghav Rastogi is currently working as a Senior member of Technical Staff, Seimens EDA (formerly MentorGraphics) and Mr. Dhruv Sharma is working as Application Engineer, Cadence Design Systems.
- Alumni Interaction in Induction Program 2020 on 25th September 2020 organized by ECE Department, MRU in which two Alumni were invited: Mr. Vijay Arora, Alumni 2020 batch, ECE, MRU invited as Guest Speaker. He is working as an Quality Assurance Engineer with 3 Pillar Global.Mr. Prashant Gupta, Alumni 2015 batch, ECE, MRU was also one of the Guest Speakers. He is currently working as a software developer at Amazon.
- Department of Management and Commerce (DMC) organized an alumni activity for the students of First Semester BBA on 25th, January 2021 on an online mode. The aim of this interaction was to encourage the students to do better and enlighten them about how to master themselves
- **Alumni Connect Report – Department of Management and Commerce, Manav Rachna University** on 26th February, 2021 for the students of BBA in online mode. The interaction fostered the awareness, insights; capabilities of students, and this coming from an Alumnus was encouraging; inspiring. Ms. Radhika Nigam, BBA Finance; Accounts, 2017-2020 batch, and employee Amazon.com gave insights into the overall E-Commerce growth scenario, the associated wealth; value creation, and the paradigms of employability creation. She being an employee of E-Commerce giant Amazon.
- **Alumni Connect Report – Department of Management and Commerce (DMC)** organized an alumni activity for the students of BBA on 17<sup>th</sup> June 2021. **Mr. Bikash Kansariya**, BBA Finance & Accounts, 2016-2019 batch, gave insights on Disruptive Innovation about time-line of digital development, growth of digital technology, marketing tools, different social media tools, discussed about analytics tools and his research work on disruptiveness of digital cameras.
- **Alumni Connect Report – Department of Management and Commerce, Manav Rachna University** organized an alumni activity for the students of BBA on 21st June 2021.CMA Shrey Chawla, BBA Finance; Accounts, gave insights on Managerial Accounting, Various roles of a Management Accountant and its associated change in responsibilities in big and small firms, the process of Managerial Accounting which involves Planning, Budgeting etc

## 6.7 Webinar/ Workshops/ Expert Lecture

### Faculty of Applied Sciences

S. No	Date of Event	Type	Topic	Speaker name	Organization	Designation
1	28-05-2021	Workshop	Innovative Strategies in Teaching and Learning Process	Dr. Megha Bansal, Dr. Ekta Rawat, Dr. Priti Gupta and Dr. Shilpa Sharma	Department of Chemistry, Manav Rachna University	Professor; Assistant Professor
2	15-04-2021	Expert Talk	Application of Quantum in Chemistry	Dr. Prakash Chandra	Department of Chemistry, Bundelkhand University, Jhansi	Associate Professor
3	26-02-2021	Webinar	NMR Spectroscopy	Dr Ravindra Kumar	Indian Oil corporation Ltd., Faridabad	Senior Research Manager, R & D Centre
4	5 June 2020	Webinar	International webinar on Interferometry based Microscopy for cell biomechanics	Dr. Vijay Raj SINGH	Laser Biomedical Research Centre (LBRC), MIT Bostan, USA.	Scientist
5	28 May 2020	Webinar	International webinar on “Two-photon absorption in bulk semiconductors and QW structures and its applications	Dr. Himansu S. Pattanaik	The College of - Optics & Photonics, University of Central Florida, USA	Scientist
6	11 May 2020	Webinar	International webinar on “Organic optoelectronic sensors for biomedical Applications”,	Dr. Ashu K. Bansal	School of Physics and Astronomy, University of St Andrews, St. Andrews, U.K	Scientist

7	3 July 2020	Webinar	Research-Webinar-Cum-workshop: X-ray scattering and its applications in Nano & Material Science research	Dr. B.H. Lee	Korea Institute of Science and Technology, Seoul, South Korea.	Scientist
8	3 <sup>rd</sup> June, 2021	Webinar	Applications of X-ray absorption spectroscopy in Nano-material research	Dr J. P. Singh	PAL, Pohang, South Korea	Scientist
9	25-08-2020	Webinar, Deptt. Of Chemistry	Challenge the Challenges	Ms. Monica Gupta	IT Wing, RERF	Director - Interactive Bees, New Delhi
	30 - 09 - 2020	Webinar Deptt of Mathematics	Say No to Stress	BK Sonika	IT Wing RERF	Senior Rajyoga Trainer
	28-12-2020	Expert Talk, Deptt. Mathematics	Applications of Algebra	Prof. R K Sharma	IIT Delhi	Professor
	29-12-2020	Webinar, Deptt. Of Mathematics	Science of Meditation	BK Monica Gupta	IT Wing, RERF	Director, Interactive Bees Pvt. Ltd.
	17Th April - 21st April 2021	Workshop, Deptt. Of Mathematics	Workshop on "Nonlinear Optimization, Variational Inequalities and Artificial Intelligence (WNVIA2021)	Dr. B. B. Upadhyay	IIT, PATNA	Assistant Professor
				Prof. C.S. Lalitha	Delhi University	Professor
				Prof. S.K. Mishra	BHU	Professor
				Dr. Tanveer	IIT, Indore	Assistant Professor

				Dr. Kalpana Shukla	MRU	Assistant Professor
				Ms. Priyanka Mishra	IIT, PATNA	Researcher
				Dr. Vinay Singh	NIT, MIZORAM	Assistant Professor
	29-04-21	Webinar, Deptt. Of Mathematics	Keeping Calm , No Matter What	BK Sonika	IT Wing RERF	Senior Rajyoga Trainer

### Faculty of Education & Humanities

Date of Event	Type	Topic of the Event	Speaker Name	Company Name(mandatory)	Designation
17th May 2021	Webinar	Education Opportunities in the UK	Mr. Wayne	Bishop Grosseteste University, UK	Head International Relations
22nd April 2021	Webinar	Management Of Stress For Students During Covid-19 Pandemic	Mrs. Vandana Datt Anand	Directorate of Education	Zonal Incharge EVGC Services Delhi
26th November 2020	Webinar	ICT Enabled Learning: Promoting Inclusion	Dr. Pettala Ramakrishna	Jamia Millia Islamia University	Assistant Professor
10th November 2020	Webinar	RPWD Act 2016 - A Milestone in the Field in the Field of Rehabilitation	Dr. Bharti Sharma	Jamia Millia Islamia University	Associate Professor
02th November 2020	Webinar	National Education Policy -2020 Through the Lens of Inclusion,	Mr. Ravi Prakash Singh	National Institute for the Empowerment of Persons with Intellectual Disabilities	Lecturer
09th July 2020	Webinar	India China Border Disputes: Historical Background and Present Reality	Ms Tashi Yangzam	CEAS, Jawaharlal Nehru University	Research Scholar

27th-28th June 2020	Workshop	Research Methodology	Dr. Yogesh Kumar	RHMS, UP	Assistant Professor
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### Faculty of Management & Commerce

Date of Event	Type	Topic of the Event	Speaker Name	Company Name(mandatory)	Designation
3rd March 2021	Webinar	Corporatization of family business	Dr. Yogita Sharma	Manav Rachna university	Associate Professor, MRU
10th April 2021	Webinar	motivational session	Dr. Subodh Saluja	Data Security Council of India	Associate Professor, MRU
18 Sep 2020	Webinar	Healthcare and Fitness	Bhagat Singh	DC, CRPF	Dy. Commandant
18th December	Webinar	Expectations of Industry from freshers	Sanjeev Sharan	ZTE Corporation	Director HR
3rd Feb 2021	Webinar	Marketing Transformation during Covid 19	Mr. Hitesh Kakar	CPM India	GM
4th of February 2021	Webinar	Budget 2021	CS Nikhil Midha	Consultant	CS
13th Feb 2021	Webinar	Importance of Literature Review in High-Quality Research	Dr Sunita Bishnoi	DAV Institute of Management	Associate Professor,
23rd February 2021	Webinar	Changing landscape of HR in pre and post times & Role of analytics in HR o	Mr. Sushil Tripathi	Oswal Industries Limited.	Head HR-
25th February 2021	Webinar	Behavioral Science of Marketing	Mr. Shoury Gupta	ValueFirst	Head of Marketing
3rd March 2021	Webinar	Corporatization of family business	Mr. Arun Bhardwaj	Careers Success	Career Coach

01 March 2021	Webinar	Changing landscape of family business	Mr. Arup Sengupta	Human Age Consultant Pvt. Ltd.	President
15th May, 2021	Webinar	EViews and SPSS	Dr. Sachita Yadav and Dr. Animesh	MRU	Associate Professor

## **Faculty of Law**

- **Webinar on Managing Ground Condition Claim**

The Centre of Excellence on Alternative Dispute Resolution (CADR) Manav Rachna University, and the Society of Construction Law – Young Leader’s Group (SCL – YLG) organised the one day Masterclass on “Managing Ground Condition Claims” with expert Indian and International faculty on 5 Dec 2020 for the Legal Fraternity, Students & Faculties.

### **Eminent speakers:**

- Mohan Pillay, Partner Pinsent Masons M Pillay, Singapore.
- Ang Wee Jian, Partner Pinsent Masons Mpillay, Singapore
- Naresh Thacker, Partner ELP
- Alok Jain, Associate Partner, ELP
- Rohit Singhal, CEO, MASIN Projects

### **Guest Speakers**

- Parag Tripathi, Senior Advocate

### **Event Chairs**

- Ajay Thomas, Faculty of Law, Manav Rachna University, Shashank Garg, Partner, Advani & Co, Co – Chair, SCL- YLG

### **Panel Moderators**

- Sagrika Wadhwa, Advocate, Delhi High Court

- **Legal Education in BRICS**

A virtual seminar hosted jointly by the Faculty of Law, Manav Rachna University in association with the University of KwaZulu-Natal (South Africa), South Ural State University (Russia), Wuhan University School of Law (China) and the Brazilian Centre for Mediation & Arbitration (CBMA) on 11 Aug 2020 for the Legal Fraternity.

### **Distinguished Panelists:**

- Daniel Brantes Ferreira, CBMA Vice President for Academic Affairs , Editor in Chief of the Brazilian Journal for ADR, Professor of Law, Brazil, Lawyer and Arbitrator
- Elizaveta A. Gromova, Professor at the Department of Business Law, Deputy Director for the International Cooperation of the Institute of Law in South Ural State University, Russia
- Ajay Thomas, Director of Faculty of Law, Manav Rachna University, India
- QIN Tianbao, Vice Dean for the School of Law, Wuhan University, China Professor of Law and serves as the Director of the Research Institute of Environmental law.
- David J McQuoid-Mason, Professor of law at the Centre for Socio-Legal Studies at the University of KwaZulu-Natal, Durban, South Africa Advocate at the High Court of South Africa, Visiting Professor of Law, Strathclyde University, Glasgow Scotland, Adjunct Professor of Law, Griffiths University, Brisbane Australia.

- **Clinical Legal Education: International Perspectives**

An exciting webinar featuring some the great and the good amongst clinical professors from USA, Brazil, South Africa, Bangladesh, Thailand and India. Hosted jointly by the Faculty of Law, Manav Rachna University, National Law University Odisha and VM Salgaocar College of Law on 10 July 2020 for the Law Students & Professors.

**Distinguished speakers:**

- Dr. Mizanur Rahman, Professor, Faculty of Law, University of Dhaka
- Lisa Radtke Bliss, Associate Dean, Experiential Learning, Georgia State University
- Dr. David McQuoid-Mason, Professor, University of KwaZulu-Natal
- Bruce Lasky, Partner, Lanna Lawyer
- Dr. Daniel Brantes Ferreira, Advogado, Arbitro e Professor de Diretio
- Dr. MRK Prasad, Principal, VM Salgaocar College of Law

**Opening Remarks:**

- Dr. Srikrishna Deva Rao, Vice Chancellor, NLU, Odisha

**Moderators:**

Mr. Ajay Thomas, Director, Faculty of Law, Manav Rachna University

- **Webinar on Effective Management of Complex Construction Arbitrations**

The Centre of Excellence on ADR (CADR), Manav Rachna University, and the Society of Construction Law-Young Leader's Group (SCL-YLG) organised the one-day Masterclass on 'Effective Management of Complex

Construction Arbitrations' with Indian and International Faculty on 20 March 2021 for the Students, Faculties & Legal Fraternity.

Speakers: Justice AK Sikri, International Judge, Singapore International Commercial Court, Nusrat Hassan, Co-Managing Partner, Link Legal, Anand Srivastava, Partner, Link Legal, Mohan Pillay, Head of Office, Pinsent Masons, Ang Wee Jian, Partner, Pinsent Masons M Pillay LLP, Kevin ash, Deputy Registrar & Centre Director.

S. No.	Faculty/ Department	International Alumni Lectures	Date	Page No.
	ECE	International Guest lecture series - <b>Mr. Rahul Kundu</b> , Identity and Access Management Consultant at DEUTSCHE Bank UK	2 – 4 September 2020	
	CST	International alumni lectures - <b>Mr. AJ Gauravdeep</b> (2005 - 2009 Batch), founder of Iwaada, a technology start-up which envisions to make arranged marriages happier, and also the Founder of OBRUCE, an organization to bring educated lifestyle to the underprivileged	30 April 2021	
	CST	International alumni lectures - <b>Mr. Gaurav Juneja</b> (2005 - 2009), as the Senior Product Manager, Technical in AMAZON, Ireland	7 May 2021	

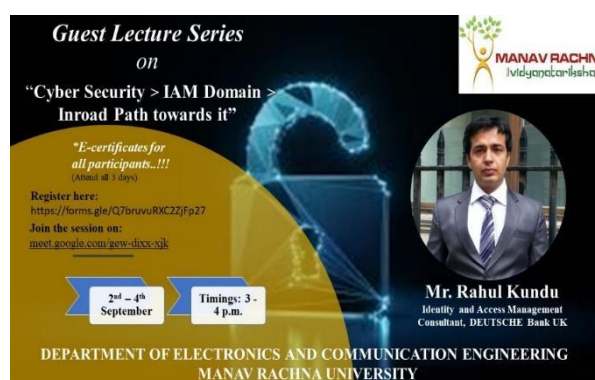
Singapore International Arbitration Centre, Atul Sharma, managing Partner, Link Legal.

Event Chairs: Shashank Garg, Partner Advani & Co. and Co – Chair SCL - YLG, Padmaja Kaul, Partner Indus Law & Member Steering Committee SCL – YLG.

## DATA SCIENCE, ANALYTICS AND CYBER SECURITY (DSAC) CLUB

Ureka (Oxford Science Park, Oxford, UK) has collaborated with the Department of Computer Science & Technology, Manav Rachna University, to establish, support, and sponsor a student-led Data Science, Analytics and Cybersecurity (DSAC) Club on the campus to ensure that students get the following in the field:

- Advice & Guidance from Industry Experts
- Career Development Opportunities
- Professional Networking
- International Certifications & Training



### 6.8 International Linkages

#### LIST OF MoUs WITH FOREIGN UNIVERSITIES/INSTITUTES

Sl. No	Institute	Country	Signing Date	Signing Year	Organisation
1	Abdullah Gul University	Turkey	6-Sep	2016	MREI
2	Antioquia School of Engineering (EIA), Columbia USA	USA	6-Sep	2016	MREI
3	Association of International Accountants	UK	20-Apr	2016	MREI
4	Autonomous University of Sinaloa	Mexico	15-Jun	2016	MREI
5	Hasan Kalyoncu University	Turkey	18-Jul	2016	MREI
6	Istanbul Commerce University	Turkey	21-Jul	2016	MREI
7	Istanbul Kultur University	Turkey	4-Aug	2016	MREI
8	Lahti University of Applied Sciences	Finland	12-May	2016	MREI
9	University of Pitesti	Romania	16-Sep	2016	MREI
10	College Sevine	France	4-Oct	2016	MREI
11	University College of Northern Denmark	Denmark	29-Sep	2016	MREI
12	University of North America	North America	26-Oct	2016	MREI
13	President University	Indonesia	24-Nov	2016	MREI
14	Vinh University	Vietnam	23-Dec	2016	MREI
15	T.C.Beykent University	Turkey	20-Jan	2017	MREI
16	Syrian Private University	Syria	20-Feb	2017	MREI



17	Asia University	Vietnam	1-May	2017	MREI
18	Akamai University	USA	10-May	2017	MREI
19	Al Mustaqbal University College	Iraq	18-Jun	2017	MREI
20	Karabuk University	Turkey	19-Jun	2017	MREI
21	Auburn University of Montgomery	USA	25-Jul	2017	MREI
22	University of the West of England	UK	21-Aug	2017	MREI
23	Universidade Lusofona	Portugal	16-Sep	2017	MREI
24	Poleskey State University	Pinsk	6-Dec	2017	MREI
25	Universitas Indonesia	Indonesia	24-Jan	2018	MREI
26	The University of New Castle	Australia	30-Jan	2018	MREI
27	Universidad Nacional Villa Maria	Argentina	6-Mar	2018	MREI
28	Haaga Helia University of Applied Sciences	Finland	12-Apr	2018	MREI
29	Laurea University of Applied Sciences	Finland	12-Apr	2018	MREI
30	Metropolia University of Applied Sciences:	Finland	12-Apr	2018	MREI
31	Istanbul Gedik University	Turkey	27-Apr	2018	MREI
32	University of North Texas	USA	5-Sep	2018	MREI
33	Osh State University	Kyrgyztan	2-Nov	2018	MREI
34	Korean Culture Centre	Korea	22-Jun	2016	MREI
35	Illinois Instiute of Technology	Chicago, USA	2-Nov	2018	MREI
36	Norquest College	Canada	14-May	2019	MREI
37	Universiti Teknologi Malaysia	Malysia	11-Jul	2019	MREI
38	Yuan Ze University	Taiwan	6-Sep	2019	MREI
39	Our Lady of the Lake University	USA	29-Jul	2016	MREI
40	Wentworth Institute of Higher Studies	Australia	30-Sep	2019	MREI
41	<b>Livingstone International University of Tourism Excellence &amp; Business Mgmt.</b>	Zambia	3-Sep	2020	MRU
42	<b>The University of Winnipeg</b>	Canada	21-Jun	2021	MRIIRS and MRU
44	<b>University of Regina</b>	Canada	23-Nov	2020	MREI

## CHAPTER: 7

### INTERNAL QUALITY ASSURANCE CELL

#### 7.1 Public Lectures Series

The Eighth Manav Rachna Public Lecture hosted by the Faculty of Law was delivered by Gourab Banerji, Senior Advocate. Mr Banerji spoke on “Continuing relevance of Fundamental Duties in these COVID-19 times on 24th July 2020. It was an online event. <https://manavrachna.edu.in/latest/eighth-manav-rachna-public-lecture/>



**MANAV RACHNA UNIVERSITY**  
POWERED BY MANAV RACHNA COLLEGE OF ENGINEERING  
NAAC ACCREDITED 'A' GRADE INSTITUTIONS  
Declared as State Private University under section 21 of the UGC act, 1956



## **8<sup>th</sup> Manav Rachna Public Lecture** **Continuing relevance of Fundamental Duties** **in these COVID-19 times**



#### 7.2 SWAYAM –NPTEL FOR THE SESSION JULY 2020-JUNE 2021

Total Enrollments	846
Total Exam registrations	224
Total number of students appeared for Credit Transfer	90
Faculty certified for NPTEL-FDP courses	6

A large number of students and faculty members have achieved National Topper Positions, Elite-Gold, Elite, and successfully completed certificates. The certificate category details are as follows:

**The Students National Toppers for the session July 2020-June 2021 Details are Shown Below:**

**Table 1**

<b>Certificate Category</b>	<b>No. of Students</b>	<b>No. of Faculty</b>
National Topper	7	2
Elite	45	0
Elite+Gold	3	1
Elite+Silver	31	3
Successfully Completed	47	1
Total	133	7

**Table 2**

<b>Sno</b>	<b>Name</b>	<b>Course Name</b>	<b>Department</b>	<b>Topper</b>
1	RAHUL THAKUR	Data Science for Engineers	CST	Topper of 5% in this course
2	Rishabh Singla	Technical English for Engineers	CST	Topper of 5% in this course
3	Piyush Garg	Ethics in Engineering Practice	CST	Topper of 5% in this course
4	Fardeen	Ethics in Engineering Practice	CST	Topper of 1% in this course
5	Vivek Saini	Introduction to internet of things	CST	Topper of 2% in this course

The department-wise distribution of students appearing for credit transfer is shown below:

SEMESTER	2020-2021			
	EVEN SEM			
DEPARTMENT	CST	EDU	MATHS	Total
1. No of courses offered to students through SWAYAM?	13	28	8	49
2. No of students registered in SWAYAM courses?	14	27	8	49
3. No of students appeared in examination for SWAYAM courses?	13	27	8	48
4. No of students passed in SWAYAM courses?	10	27	8	45
5. No of students benefited with SWAYAM credit transfer?	10	27	8	45

SEMESTER	2020-2021			
	ODD SEM			
DEPARTMENT	CST	EDU	MATHS	Total
1. No of courses offered to students through SWAYAM?	30	7	8	45
2. No of students registered in SWAYAM courses?	58	6	8	72
3. No of students appeared in examination for SWAYAM courses?	40	6	8	54
4. No of students passed in SWAYAM courses?	31	6	8	45
5. No of students benefited with SWAYAM credit transfer?	31	6	8	45

#### **NPTEL Discipline Star**

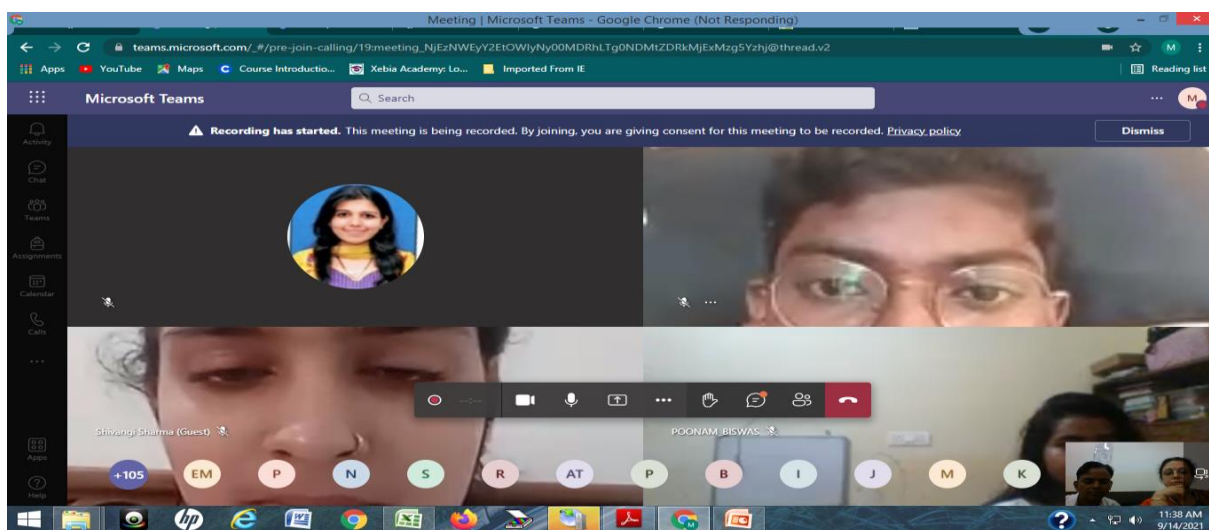
❖ Mr. Rahul Thakur, student of BTech CSE 8th SEM has been recognized as NPTEL Discipline Star for his Six MOOC Courses in Computer Science & Engineering Discipline where each course ranged between 8 to 12 weeks. The certificate of recognition has been

awarded to him by SWAYAM-NPTEL (The National Programme on Technical Enhanced Learning).

❖ Mr. Parag Kumar Garg, student of BTech CSE 8th SEM has been recognized as NPTEL Discipline Star. He completed Eight MOOC Courses in Computer Science & Engineering Discipline where each course ranged between 8 to 12 weeks. The certificate of recognition has been awarded to him by SWAYAM-NPTEL (The National Programme on Technical Enhanced Learning).

### 7.3 VIRTUAL LABS

Manav Rachna University was declared as Nodal Centre for Virtual Labs, in association with IIT, Delhi, on 10th April, 2018. In continuation with this series for Virtual Labs workshops MRU organized a workshop on “Virtual Labs” in association with IIT Delhi on 25th Sep 2020. Subsequently workshops were organised on 13<sup>th</sup> April 2021. labs, MRU ) and Mr. Narender Gauttam ( Coordinator virtual labs(CST,MRU)).



### Semester wise Virtual Labs usage Report

#### VIRTUAL LABS USAGE

(July 2020 – Dec 2020)

Department	No. of students	No. of Virtual labs performed	No. of experiments	No. of students x No. of Virtual labs performed x No. of experiments
CSE	466	5	10	23300
ECE	12	5	10	600
physics	8	8	10	640
<b>Total usage</b>				24540

Number of Virtual Labs Experiments Performed: 30

**VIRTUAL LABS USAGE  
(January 2021 – May 2021)**

Department	No. of students	No. of Virtual labs performed	No. of experiments	No. of students x No. of Virtual labs performed x No. of experiments
CSE	330	5	40	66000
ME	26	5	40	5200
Chemistry	250	15	120	450000
Physics	250	8	50	100000
Total usage				216,200

Number of Virtual Labs Experiments Performed: 250

**7.4 IQAC Activities**

The schedule for the activities carried out is shared below:

In the Academic Session 2020-21, various initiatives were taken by IQAC for quality improvement. In this session IQAC focused on criteria wise analysis and improvement as per NAAC specifications. Quarterly reviews of activities for each department were carried out. Half yearly review of supporting documents was conducted. At the end of the Academic session, each department prepared their individual AQAR reports.

S No.	Activity Name	Outcome	Proposed Dates/Week	Resource Person (if applicable)
1	Webinar of Healthcare Technology	Awareness about Innovation in healthcare	31st July 2020	Mr. M. Malaiyappan, Pantech Solution
2	NAAC SSR reviews	Quality Improvement	August second week to September third week	IQAC and NAAC team
3	Course status reviews for online lab sessions	Teaching Learning and Evaluation	September last week	IQAC audit teams
4	Talk on multidisciplinary Innovation in Healthcare technology (orientation technology)	Awareness about Innovation in healthcare	30th September	M.Prateek Sikka
5	AQAR quarterly report July-Sept, 2020 compiled for Engineering disciplines	Quality Improvement	30th September	Dr.Charu Pathak

6	AQAR quarterly Audit analysis ECE, ME, CSE	Quality Improvement	October last week to November Second Week	IQAC executing team
7	Course Status Review	Implementation of OBE	Sept 2020	Ms.Geeta Thakur, CAL Incharge
8	Introducing CAPs in course plan	Evaluation process	Sep-20	IQAC executing team
9	Introducing CO-PO attainment on ERP	Attainment analysis	Sep-20	IQAC executing team
10	AQAR analysis July-Sept	Overall quality improvement at departmental level	Oct 2020	IQAC executing team
11	MS office training	Teacher and staff quality improvement	Alternate Saturday, Dec 20-Jan21 ( 3 sessions)	IQAC executing team
12	AQAR analysis Oct-Dec	Overall quality improvement at departmental level	Jan third week 2021	IQAC executing team
13	Academic audit	Quality Improvement	Feb, 2021	IQAC executing team
14	AQAR analysis Jan-April	Overall quality improvement at departmental level	May first week	IQAC executing team
15	Workshop on Reflective teaching	awareness about reflective teaching	May 2021	Dr.Kiran Gupta, Dr.Hardeo Thakur
16	Learn to story tell a research	Increasing h-index of Univ	June -2021 ( 4 sessions , one every week)	ies solutions
17	Yoga -Post Covid recover	human values	12,13,19,21 June, 2021	Ms.Manisha Arya

## Faculty Development Programmes & Workshops Organized under IQAC

S.No.	Dates (from-to) (DD-MM-YYYY)	Updated Title of the professional / administrative development program organized for teaching staff/non-teaching staff
1	25-07-2020	Health and Hygiene for Security Staff
2	04-08-2020 to 06-08-2020	FDP on Managing Work and Family During Lockdown
3	11-08-2020	Training session for Preparing Schedule on ERP for Generating the Admit Card & Generation of Internal Examination Report
4	21-08-2020	Security and Safety Training for Security Staff
5	21-08-2020	Workshop on Activity-Based Learning for Faculty Members
6	28-08-2020	Workshop on Collaborative Online Learning for MRU Faculty
7	04-09-2020	Workshop on ICT-based Constructivist Learning for Teaching Staff
8	11-09-2020	Workshop on Heuristic-based Innovative Pedagogy for Teaching Staff
9	12-09-2020	Workshop on Differentiated Instruction for MRU Faculty
10	18-09-2020	Workshop on Reflective Practice Based Learning for MRU Faculty
11	19-09-2020	Workshop on Blogging in the Classroom for Teaching Members
12	25-09-2020	Workshop on Flipped Classroom Approach for Faculty Members
13	26-09-2020	Workshop on Experiential Learning (Learning by Doing) for Faculty
14	29-09-2020 to 30-09-2020	FDP on Balanced Diet and Hygiene for Self and Family
15	03-10-2020	Workshop on Scenario-based Learning for Faculty of MRU
16	13-11-2020	“Wellness Programme : Assuring Mental Health During the Difficult Times” for Staff
17	17-11-2020	“Trauma Handling During the Pandemic” for Staff
18	26-11-2020	Training on CO and PO Attainment Through ERP
19	27-11-2020	An ERP Session for Outcome Based Education (OBE) Work to MRU Faculty
20	14-12-2020	“Mental Wellness Among Professionals During Pandemic” for Staff
21	17-12-2020	Sanitization and Hygiene Best Practices for Faculty Members
22	04-01-2021 to 06-01-2021	FDP on Managing Mental Health for Self and Family



23	11-01-2021	Workshop on Teacher Centric and Student Centric Mode of Teaching for Faculty of MRU
24	15-01-2021	Administration Staff Training for Record Keeping and Processing
25	24-01-2021	Faculty Development Program on the National Innovation and Startup Policy (NISP2020)
26	01-02-2021	The Importance of Research Ethics for MRU Faculty and Research Scholars
27	02-02-2021	ERP Training Session: - CO & PO Attainment (Direct and Indirect Attainment) for Faculty Memebers
28	13-02-2021	FDP on "The Importance of Literature Review in High-Quality Research" for Faculty Members
29	20-02-2021	Training for Lab staff for Best Lab Practices for CST Department
30	05-03-2021	FDP on Qualitative Research on NVIVO to School of Management
31	06-03-2021	ERP training on Course Plan Uploading, Attendance Monitoring, Report Generation, with ERP Coordinators and Faculty
32	06-03-2021	ERP Training for Uploading of Lab Marks with Rubric for Program Coordinators
33	08-04-2021	Workshop for "Delegation of Rights for Creation of Examination Schemes" for ERP Coordinators
34	17-04-2021	Mock Drill for Calamities like Earth Quake for Teaching and Non-Teaching Staff
35	23-04-2021	ERP Session on Supplementary and PSC Examination of Students for Coordinators, Examination Team
36	15-05-2021	Training on Safety: Fire- Drill for Faculty, Staff, Security Persons
37	02-06-2021	An NEP Policy Awareness Session for Heads and Deans
38	07-06-2021	Hands-on Session for Examination Module Uploading
39	10-06-2021	"ERP Training Session for Course Creation and Right for the same"
40	14-06-2021 to 18-06-2021	Mechanical Staff training on 3-D Printing Lab

### 7.5 Internal Academic Audit

Through IQAC, the university conducts periodic reviews of the academic processes. An internal academic audit system has been developed pertaining to criteria defined by NAAC. The academic review includes the course planning review to assure a quality learning process. Internal academic reviews take into account all other aspects of the academic system like, evaluation, student support system, curriculum design, institutional values etc. A brief categorization and description is followed.

- A) Course Plan review (IQAC) --Once in a Semester
- B) Internal Academic Review (IQAC)- Twice a semester
- C) Student feedback (Feedback Committee) --Twice in a Semester
- D) Attendance review (Attendance review committee) –Thrice in a Semester

### **A. Course plan review**

It is done once in a semester, before the beginning of classes by IQAC teams or by departmental review committees. The course plans are reviewed. Course Plans include

1. Well defined course outcomes are defined clearly to address the program outcomes.
2. A well defined Course plan which includes mapping of Laboratory and Tutorial objectives to achieve the stated course outcomes and the relevant Blooms Taxonomy level.
3. A well defined course assessment plan to achieve the stated course outcomes.
4. Teaching pedagogies like active learning, Collaborative learning, and problem based learning are incorporated in the mode of delivery.
5. CO, PO articulation matrix.

### **B. The Internal Academic Review**

The Internal Academic review is conducted by IQAC audit teams twice a semester. The process flow is as follows

1. The departments are asked to submit quarterly reports of activities conducted as per academic quality assurance criteria listed by NAAC.
2. Quarterly AQAR activity reports are analyzed by IQAC and thus a feedback analysis is shared with respective departments.
3. Half year academic audit and annual academic audits are conducted for all the seven criteria where the departments are supposed to produce all the supporting documents.
4. The departments are asked to propose the action plans after every audit as per audit feedbacks.
5. Internal Academic review also involves review of course files. Randomly chosen subjects are reviewed for the detailed review of course files which includes course plan, tutorials, assignments, evaluation and analysis for weak and strong students, pedagogy and various other parameters.

### **C. The student course feedback system**

It includes formative and summative feedback for each course being taught in that semester. This is conducted by the feedback committee. Thus, the feedback is taken twice in a semester.

1. The feedback format of each course ensures that the syllabus coverage, delivery of course material, planning for the course delivery, innovative teaching methodology etc are covered.
2. The formative feedback is taken from all the students for every course being taught, 3-4 weeks after the commencement of classes. This feedback is shared with the respective faculty members.
3. The summative feedback is taken from the students who meet minimum attendance criteria, towards the end of the semester. This feedback also assesses the course outcomes and achievements of course objectives.
4. Student satisfaction survey for generic facilities and curriculum is also conducted.

### **D. Attendance review**

It is done by the attendance review committee thrice a semester.

1. The faculty members teaching individual courses are required to update the attendance every day on ERP.

2. The strength of students present in each class is monitored on daily basis.
3. The cumulative attendance of students is checked thrice a semester one week before the start of sessional exams (T1 & T2) and the final exam.
4. The students, who do not meet the minimum attendance criteria, are warned by sending the information telephonically to the parents.

## **CHAPTER: 8**

### **NEW INITIATIVES TAKEN**

#### **8.1 Certificates Achieved by Students during Internship Program at Atal Incubation Centre- BIMTECH Noida- Our Academic Partners**

Our students of BBA-Finance & Accounts (2019-22 batch) completed their internships at AIC BIMTECH wherein they were a part of Marketing, Operations and Market Research projects of their incubated/startup partners. The following students were shortlisted:

1. Manan Arora
2. Anjali goyal
3. Pryansh Sikka
4. Pankaj

#### **Department of Management and Commerce:**

- The department has worked towards incorporating in their curriculum and course delivery the alignment of the courses with the Sustainable development Goals (SDGs). Each of our specialization programs whether it is BBA- Healthcare Management or Operations Management or Entrepreneurship & Family business or Finance & Accounts have mapped their course contents towards creating awareness of SDGs goals and finding sustainable solutions to the societal problems.
- The department focuses on building knowledge and skills of our students in the most contemporary areas like data and business analytics, website designing, digital finance etc and interdisciplinary learnings through the introduction of open electives which have been delivered in this academic year. The outcome of the same has made our program very competitive in NCR and supporting the admissions.
- The specialization courses on entrepreneurship also involve the use of project based learning methodology in the process of creation of business plan and model to evaluate the viability and feasibility of start up ideas. The outcome of the new initiative being taken by the Department are very encouraging as it is supporting in building the enterpereneur ecosystem in the Department for generation of creative ideas and Start-UP.

#### **Department of Mechanical Engineering:**

- (i) Focusing on soft skills and technology based skills and creating real life examples to facilitate the learning process through classes organized for professional competency enhancement to focus on soft skills which supported the students in the final placement.
- (ii) Project were displayed in Innoskill like “Pyramid Solar Still” And use of Thermal Geothermal Energy for cooling and Heat Transfer which were appreciated by all.
- (iii) Students registered for the various courses from partner Altair and earned the points in MRLSP.
- (iv) Students executed and developed prototype of various projects in the areas of thermal analysis, hypermesh, CFD and sim-solid in collaboration with Altair and Design Tech.
- (v) Teaching of new subjects such as 3D Printing Technology and Robotics enhanced the skill sets of our Mechanical Students and they had submitted the collaborative projects which were evaluated through project based learning.

All the initiatives had supported the students in the enhancement of knowledge, skills and employeability skills and finally got good placements.

## **8.2 Centres for Academic Leadership**

Centre for Academic Leadership is established with the vision of empowering the academic fraternity to make future generation to be responsive, responsible and productive and assume active roles locally and globally.

This Centre aims to empower the academic fraternity academically, professionally, and technically using systemic approach to play their respective roles, to conduct research in latest pedagogies and educate academic fraternity of its impact and to connect the leading experts working in latest technologies to the academic community for up gradation of their knowledge and skills. CAL conducts various Academic Quality Enhancement Programme to train the faculty to acquire knowledge and develop skill to enhance quality of teaching of faculty. Various Faculty Development Programmes are conducted to upgrade digital skills to augment the competencies to teach in online mode. Sessions to update the knowledge are organized regularly.

### **8.2.1 Academic Quality Enhancement Program**

#### **FDP on Designing Outcome Based Education**

3Days FDP for Faculty of Manav Rachna University and Manav Rachna International Institute of Research and Studies from 21<sup>st</sup> Dec 2020 to 23<sup>rd</sup> Dec 2020. The Resource persons were Dr I K Bhat, Dr Pradeep Kumar, Dr Sangita Banga, Dr Babita Parashar, and Dr. Geeta Thakur.

#### **FDP on Microsoft Office**

IQAC, Manav Rachna & Centre for Academic Leadership organized a Short FDP on Microsoft Office on working Saturday's i. e. 5th December 2020, 17th December 2020 & 2nd January 2021.

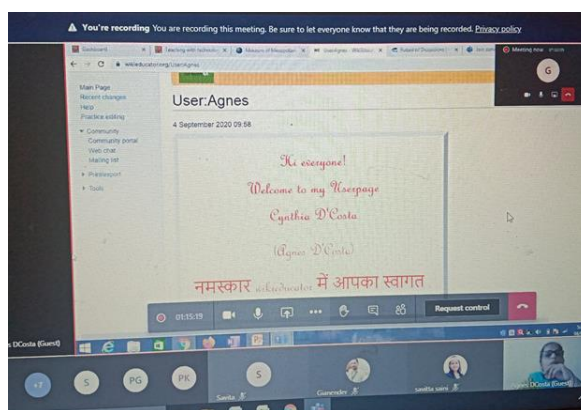
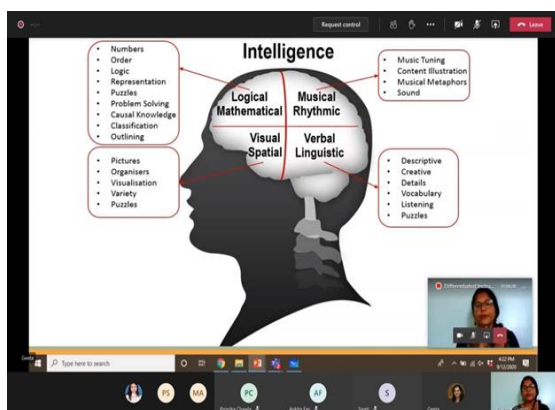
The aim of the FDP was to enable to bridge the digital skill gap among the faculty of Manav Rachna University. The FDP on Microsoft Office was about Microsoft word 2019 and Microsoft PowerPoint 2019. The objectives of the session were to revise the basic features of Microsoft word and PowerPoint and also to update the participants regarding new features of Microsoft Word and Microsoft PowerPoint. Dr Geeta Thakur and Ms Riya Sapra from Manav Rachna University conducted the sessions.

#### **Session on Reference Management tool: Mendeley**

Session on “Reference Management Software: Mendeley” for the faculties and Ph.D scholars of Manav Rachna University on 22nd May 2021 by Dr Geeta Thakur

### **8.2.2 Identify, Implement and Promulgate (IIP) Program**

The purpose of the initiative “IIP” is to enhance the quality of teaching, learning and assessment. This initiative is for identifying, implementing and promulgating unique strategies by faculty and department. The first phase of this initiated with sessions on innovative teaching strategies and assessment strategies Dr. Savita Manchekar, Principal, Lords Universal College, Dr. Agnes D’Costa, Pushpanjali College of Education, Dr. Pratima Pradhan, Fakir Mohan University, Orissa, Dr. Nandita Deb, Shishuramdas college, West Bengal, Dr. Savita Sharma and Mr. Ram Chatterjee, Dr. Geeta Thakur from Manav Rachna University conducted sessions on various innovative pedagogies.

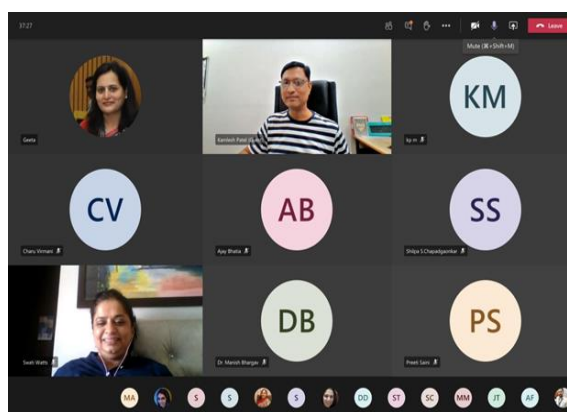
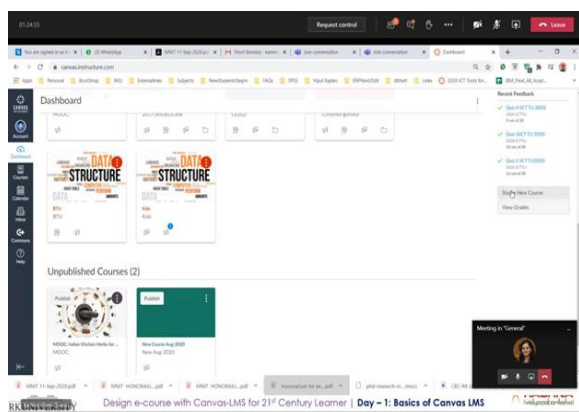


### 8.2.3 Workshop on E-Content/E-Course creation

Centre for Academic Leadership initiated a Project for "Online Course material (e-content) creation".

Sessions on Design e-course with Canvas-LMS for 21st Century Learner was conducted by Dr. Kamlesh Patel Director, CBC, RK University, Gujrat Faculty learnt basics of canvas LMS, Design digital content Design assessment and creating e-course with Canvas LMS.

Sessions on “Basics of e-content” and “Creative Commons license” were conducted by Dr. Geeta Thakur, Head, and CAL.

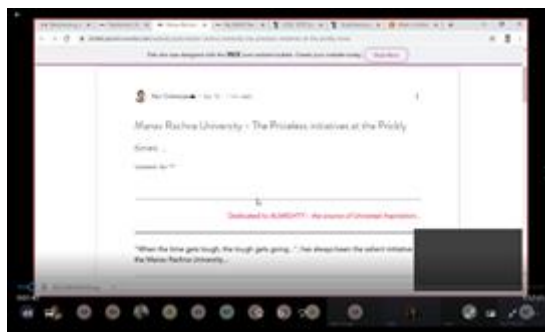


### Empowering Academicians

#### 8.2.4 ASLI CHAI

ASLI CHAI is a conscious informal gathering of faculty members of different areas to provide them a platform to share, express, get answers, contribute and exchange knowledge with each other and from each other. The second ASLI CHAI ONLINE was conducted in virtual mode on ASLI CHAI ONLINE on 30th May 2020 in Manav Rachna University. Dr. Sangita Banga, Dean Academics expressed the purpose of ASLI CHAI. She emphasised the significance of informal sharing of activities and experiences for the enhancement of quality of online education through synergy. Dr. Manmeet Bali Nag from Department of Management & Commerce shared her experiences with variety on digital tool for collaborative and experiential learning combining synchronous and asynchronous e-learning. Mr Ajay Bhatia from Department of Law highlighted the practices for personalising learning experiences for students using multimedia approach. Mr. J P Sharma and Mr. Gianendar Kajal from Department of Mechanical Engineering stressed on the need of redesigning the class using androgical approach, Ms. Yogita Khanna & Dr. Shruti Vashisht from department of

Electronics and Communication shared how they focused on comprehensive and continuous evaluation through various assessment tools. Dr Sachin lakra and Mr Ram Chatterjee from department of Computer Science and Technology explained the ways to integrate games, virtual labs labs and art in classroom learning. Dr Akhilesh Dwivedi from Department of Education emphasised on various strategies for diagnostic assessment and formative assessment. Dr Deepa Arora from department of Mathematics shared their efforts to use demonstration method, Dr Aditya Sharma from department of physics expressed the need to analyse the need and redesign the curriculum for online education, Dr Priti from department of talked about peer teaching strategies and students engagement strategies. Dr. Kameshwar Singh, Registrar appreciated the efforts of faculty and directed to continue these practices with continuous enhancement.



### 8.3 MANAV RACHNA CENTRE FOR PEACE AND SUSTAINABILITY

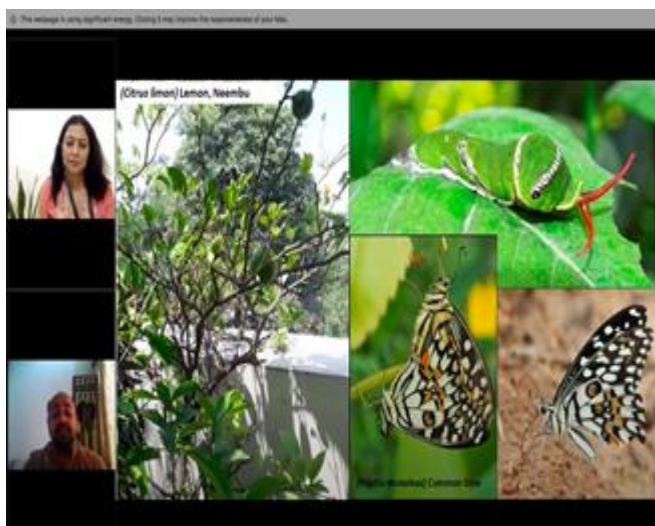
Manav Rachna Centre for Peace and Sustainability (MRCPS) a center of excellence of Manav Rachna University which is a visionary step for the Holistic Development of youth.

The MRCPS is the epicenter of academic endeavors like: training, research, community awareness programmes in all spheres of peace and sustainability. The centre is the embryo for promotion new approaches towards ensuring sustainable development and peace at local, national and global level. The Centre of MRCPS is presently focusing on six SDGs i.e. Quality Education, Gender Equality, Affordable and Clean Energy, Decent Work and Economic Growth, Climate Action and Peace, Justice through verticles **SahRita, Parashakti, Prakarsh, Sadbhav and Samridha.**

The initiatives taken MRCPS are detailed below:

#### 8.3.1 WEBINARS

##### A webinar on Bringing Butterflies Home



Manav Rachna Centre for Peace and Sustainability in collaboration with Bombay Natural History Society organised a webinar on Bringing Butterflies Home on 15th July. The esteemed speaker Mr. Sohail Madan enlightened the participants about the life cycle and ecological roles of butterflies and the plants attracting the butterflies. He emphasised on how we can create an environment suitable for such beautiful insects and urged everyone to grow these plants this rainy

season and also not to miss observing these amazing creatures!

### **Webinar on “Science and Spirituality” by Rishi Vidyadharji**

Rishiji elaborated the scientific nature of meditation and importance of spirituality in daily life. He explained seven layers of existence i.e. Body, Breath, Mind, Intellect, Memory, Ego and self. The body has to be kept flexible, strong and steady. Breath needs to be kept long and rhythmic. Mind needs to be in present and free from future. Intellect needs to be kept free from inhibition and aversion. Memory needs to be kept free from negatives. Ego should be free from superior or inferior complexes. Self is the present moment itself. Meditation helps us to be in present moment. He made the participants to do meditation.

### **Meditation workshop: Relax, Rejuvenate and Unwind**

Three days Meditation sessions by Heartfulness were conducted. Students and faculty were given the opportunity to learn meditation practice. On First day, Dr. an overview of Heartfulness meditation and focused upon the significance of meditation in daily life was given. On the second day Dr. Promod Sadeshmukh interacted and taught how to rejuvenate your mind. During the same session meditation was taught. On the third day Ms. Lalita and Mr. Rajgopalachari explained the importance of prayer.

## **8.3.2 SUSTAINABILITY INITIATIVES AND PROJECTS UNDERTAKEN**

The projects and interventions undertaken in the realm of “Sustainability” are given below

### **CELEBRATION OF WATER WEEK**

#### **Webinar on Water efficiency for Sustainable Building**

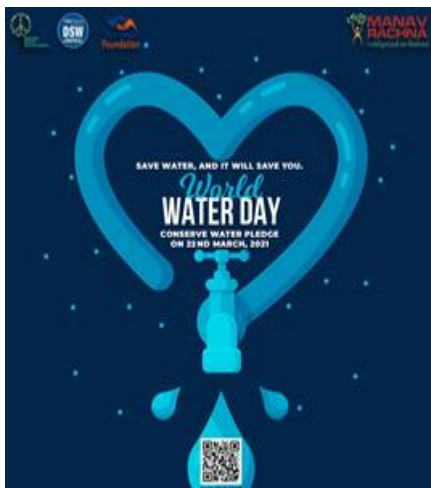
Webinar on “Water Efficiency for Sustainable Building” on the occasion of Water day the 22nd March in which Resource person Dr Sanjay Mathur, Professor & Head, MNIT, Jaipur, Dr N C Wadhwa, Director General, MRIE and Dr I K Bhat, VC, MRU highlighted the scenario of drinking water in world as well in India in particular, the need to become water efficient and making sustainable building and ways to bring water efficiency





## Conserve Water Pledge

On the occasion of WATER DAY (22nd March) Manav Rachna initiated CONSERVE WATER PLEDGE campaign all across India where people took online pledge using the link and received their softcopy of pledge with their name, photograph and signature. We had great responses from students from different colleges, cities, states and countries as well.



## 8.3.3 EVENTS CONDUCTED BY MRCPS

### CELEBRATION OF WOMEN'S WEEK- AADYA

#### Ek Din Apke naam

"Ek Din Aapke naam" was celebrated as gratitude towards the house keeping Women staff. It was dedicated to the Ladies Housekeeping staff to appreciate their perseverance to cope up with challenges of life by balancing their contribution in family making and raising their children along with their contribution to organization.



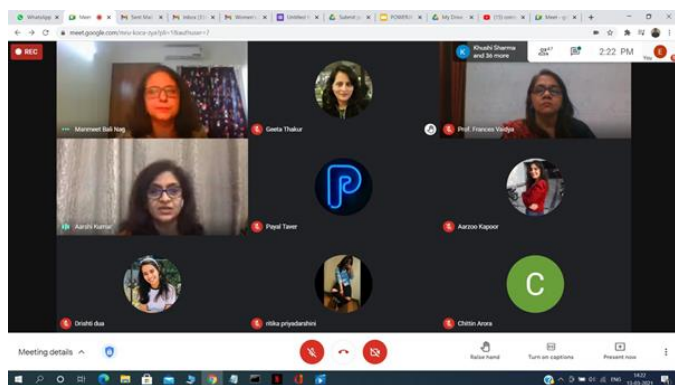
## CHARCHA// LAW DIALOGUE

The aim of the event was to develop understanding and capability to extend reasoned arguments, critical thinking, effective communication and intelligent opinions regarding gender issues around us.

The event witnessed the screening of a documentary on menstrual hygiene and period poverty. "Period. End of Sentence." – a short documentary directed by Rayka Zehtabchi tells the story of generations of women who didn't had access to pads, which led to health problems and girls missing school or dropping out entirely.

During the movie screening, we touched upon the social stigma attached to the word "periods." How since the onset of puberty in girls, there is a shift in the mentality of society towards them. As they are expected to act more mature, behave in a certain way and so on. These are the situations, which girls face and not to mention how the majority of women don't even have access to sanitary napkins and are forced to use cotton clothes, dried leaves, etc.

## PANEL DISCUSSION ON DOMESTIC VIOLENCE



This panel discussion provided an overview of domestic violence in relation to the ongoing corona virus pandemic. During these pandemic multiple steps were taken to control the Corona virus which altered our lives hereby increasing the number or domestic violence cases.

## NUKKAD NATAK



Different aspects of gender inequality are touched upon through Nukkad Natak by students. A Nukkad Natak is performed at various places to make people aware about the gender stereotyping and motivating girls to realize her strength and to make her empowered.

## CHOOSE TO CHALLENGE

The event began with watching two short videos on patriarchy, gender stereotypes and how it affects as well as plagues Indian society and mindsets of people. All the participants shared one or two gender stereotypes which they face on a day to day basis and what they think should change in the society with respect to social, psychological stereotypes faced by males, females and by persons who identify as LGBTQIA+. The discussion was held to be very

fruitful as the topics took into account those of arrange marriage, martial rape, gender norms based on choice of colour of clothes, stalking, name calling, education, period health and so on. We concluded the session on a positive note by understanding how far we have come and how far we as progressive society have to go.

## **DARE-2-ASPIRE**

Dare-2-Aspire was organised to provide a platform to everyone who wants to portray their feelings in words for the Importance of women in our lives and how they inspired them.

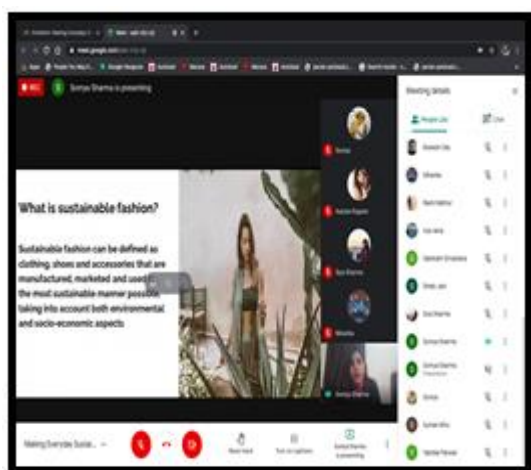
A 'Write-Up Competition (Dare 2 Aspire)' was organized on the theme "Importance of Women in our Life" and to write a positive quote/message that they would like to convey as a wave of happiness. The event was open for all on 13th March 2021.

## **8.3.4 MANAV RACHNA PEACE AND SUSTAINABILITY CLUB**

We at Manav Rachna believe in youth power and envision to make youth competent global professionals with values and integrity. This endeavor aims to prepare the youth of the nation to develop into Leaders who will contribute in bringing progress to society through such actions and initiatives that promote Sustainability in the area of their chosen career. Through its Manav Rachna Peace and Sustainability Club (MRPSC), Centre carried out webinars, competitions, campaign, Pledge campaign, Social Media Campaign, community work in the area of Peace and Sustainability. Students are being molded to be responsible, peace loving citizens with Sustainable competencies through collective efforts. At Manav Rachna, we are making deliberate attempt to create brigade of Gender champions, Peace champions and Green warriors who we believe, would be influential and leading citizens of Peaceful and Sustainable New India.

The activities conducted under Peace and Sustainability club are as follows:

## **THE GREEN VOGUE WEEK**



The Green Vogue Week was celebrated during 22nd December to 26th December 2020. This event includes Infographics Competition, Making Everyday Sustainable- Workshop, Quiz Competition, Antique To Modish, and E- Fashionnova (Fashion Show). The event was started with a workshop "Making Everyday Sustainable" by Ms. Somya Sharma who is an Assistant Professor of Journalism and Mass Communication at Faculty of Media & Humanities, MRIIRS. The session was based upon the idea of sustainability in which the participants learned about making use of sustainable and recycled fibre, utilising eco-friendly

processes that save water and minimise the discharge of effluents into nature and also start bringing up sustainable fashion into our lives.

The final day of The Green Vogue Week culminated with an online Fashion Show- “E-FASHIONNOVA” which was judged by Miss Elina Chauhan, a Runway Model, a Ramp Walk Trainer, Fashion Choreographer, and MTV Fame. The participants depicted sustainable fashion of various forms.

This celebration involved participation from students beyond our university and entertained a footfall of **over seven hundred** participants from across India and other countries like **Nepal and Malaysia**.

### **YUZKALA**

Mandala art making competition on the theme “YOGA” The purpose was to bring awareness of various yoga posture and integrate through Indian Art form i.e. MANADALA



**PRIDE:** In the honour of Tran’s week, a **slogan making event** was organized representing power of words for Tran’s community. Themes were related to position of LGBTQ in our society. Through the event the status of these gender people was shown and how people treated them was also depicted. But the main concern was to let people know the importance of treating all the genders equally and to accept them because it’s just a normal fact which has to be considered as the part of the society.

### **RANG CAMPAING**

The students wore the colour blue to represent elimination of violence against women and sent their picture with their messages. It was held on 25 November 2020. This was to create awareness regarding violence against women.

### **KAVYANJALI**

In the honour of International day of Elimination of violence against women, a poem writing competition was organized representing power of women. This event was to create awareness about increase of women violence rate. Poems written by students were around the themes related to women empowerment and making women integral part of the nation.

### **JAJBAAT**

On the occasion of BHAIDOOJ, Parashakti organized an **Article writing Competition**.

Themes were related to relationship of brother and sister. It was to strengthen the relationship and to inculcate the respect for women.

### **PRAGYA**

On the occasion of BHAIDOOJ, Parashakti organized an **Article writing Competition**. Themes were related to relationship of brother and sister. It was to strengthen the relationship and to inculcate the respect for women.

An event (Photography competition) was organized in which the students clicked the photographs that best matches the theme “Educational environment Nature as a teacher”. The main aim was to represent the education we get through nature. It was organised with respect to international day of education. It was held on 24 December 2020.

**PANEL DISCUSSION WITH NGO** The purpose of the event was to create awareness and understanding about the works and efforts of the NGO’s for a better social environment and betterment of the citizens and community they are associated with. The discussion involved the participation of students not only from our University but from various other colleges and universities. The even involved the participation of a well known NGO – karuna - the compassion. The members of the NGO informed us about the various intrests they work for.

### **WEBINAR ON "NEW EMPOWERED WOMAN: WOMAN WITH WINGS”**



**Parashakti** in collaboration of WICCI UP HR council presented a webinar on "new empowered woman: woman with wings" on December 19th where speaker- sqn ldr dimple rawat delivered her views on the very topic and well as personal experiences.

### **RAREFIED**

Either we leave our descendants an endowment of zero poverty, zero fossil-fuel use, and zero biodiversity loss, or we leave them facing a tax bill from Earth that could wipe them out. Manav Rachna Peace and Sustainability Club presents "Rarefied" an initiative to save the vanishing treasures on the occasion of Endangered Species Day 21st May 2021 and Biodiversity day 22nd May 2021.

### **BHARAT KI RUHSE**

A nation’s culture resides in the hearts and in the soul of its people. - Mahatma Gandhi

Manav Rachna Centre for Peace, Manav Rachna University organized an Essay writing competition Bharat ki Ruhse on the topic SDGs through the Lense of Indian Society on 31st May 2021. Major theme was “SDGs through the lense of Indian spirit” and the subthemes were 1. Revealing SDGs from Indian culture. 3. Reflection of SDGs in Indian living style. 3. Traces of SDGs reflected in Ancient Indian literature. 4. Perceiving SDGs through Indian philosophy

#### **8.4 Center of Excellence on Alternative Dispute Resolution (CADR)**

1. The webinar “Understanding Arbitration, Mediation and Conciliation was hosted by Law Joint in association with Indian Dispute Resolution centre along with Faculty of Law on 30 th August 2020. The esteemed speaker of the webinar was Mr Aruneshwar Gupta, Senior Advocate , Supreme Court of India, Guest of Honour was Mr Ajay Thomas, Director, Faculty of Law and Moderator was Mr Divyansh Hanu Rathi, Managing Partner, Lexidem & Rathi.
2. The Faculty of Law in association with LSAC Global – the administrators of the LSAT India test, hosted a webinar named “How to Productively use your five years at Law School” on 7 th October 2020 to assist students in making the best use of their time at law school. The panelists at this event were Abhinav Bhushan Director (South Asia), ICC Arbitration and ADR, Singapore, Aakanksha Kumar Doctoral Candidate, NLU Jodhpur & former Assistant Professor, NALSAR, and Divya Behl Advocate, Advani & Co. Shobhit Mohan Assistant Professor, Faculty of Law very ably moderated the session and Dr Versha Vahini Head of Department, Faculty of Law, delivered the closing remarks.
3. Faculty of Law along with CCLE hosted a webinar on “Interface between Bigtech and Competition Law ” on 28 th November 2020. The esteemed speakers of the webinar was Dhanendra Kumar, Former Chairperson, competition Commission of India, Karan Singh Chandhlok, Partner Chandhlok & Mahajan, Abhishek Singh Baghel, Counsel DSK Legal, Yaman Verma, Partner Shardul Amarchand Mangaldas.
4. Faculty of Law hosted a webinar on “Consumer Protection Act 2019 on 13 th March 2021 and the distinguished speakers of the webinar were Honorable Justice R.K Agrawal, President NCDRC and Joy Basu, Senior Advocate, Supreme Court of India

#### **Webinars organized under CADR**

1. The webinar “Weathering the storm; Energy Disputes, the Energy Transition and Impact of Covid 19 was organized by Centre of Excellence on Alternative Dispute Resolution (CADR) on 17 th July 2020. The distinguished speaker was one of the world’s leading energy expert’s, Professor Raphael Heffron of the Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP) at the University of Dundee, Scotland.
2. The webinar “Mediation and Arbitration: Friends or Foes” was jointly organized by CADR, UNCCI and UNCITRAL’s National Coordination Committee for India on 1 st August 2020. The superstar cast of speakers at this event were: a man whose name is synonymous with mediation in India (Sriram Panchu); a sitting judge from the High Commercial Court of Croatia who is also an active mediator and arbitrator (Judge Srdan Simac); a very distinguished judge from the Calcutta High Court (Justice Moushumi Bhattacharya), and a man who was instrumental in steering global and regional efforts to promote institutional arbitration and also Singapore as an arbitration hub (Professor Lawrence Boo).
3. Centre of Excellence on Alternative Dispute Resolution (CADR) and the Society of Construction Law-Young Leader’s Group (SCL-YLG) presented a one day Master Class on “Managing Ground Condition Claims” with expert Indian and International Faculty on 5 th December 2020. The distinguished speakers of the webinar were Mohan Pillay, Partner Pinsent Masons M Pillay, Singapore, Ang Wee Jian, Partner Pinsent Masons M Pillay, Singapore, Naresh Thacker, Partner ELP, Alok Jain, Associate Partner, ELP, Rohit Singhal, CEO, and Masin Projects.
4. CADR presented an online discussion on “Soft way of doing hard things: Do women make better mediators” on 12 Th December 2020. The esteemed speakers were Veena Ralli, Advocate, Mediator & Organizing Secretary, Samadhan, Chitra Narayan, Advocate & Mediator, Hazel Tang, Counsel, ICC International Court of Arbitration, Singapore.
5. CADR and the Society of Construction Law-Young Leader’s Group (SCL-YLG) presented a one day Master Class on “Effective Management of Complex Construction

Arbitrations”. The esteemed speakers of the webinar were Justice AK Sikri, International Judge, Singapore International Commercial Court, Nusrat Hassan, Co-Managing Partner, Link Legal, Anand Srivastava, Partner, Link Legal, Mohan R Pillay, Head of Office, Pinsent Masons, Ang Wee Jian, Partner, Pinsent Masons M Pillay LLP, Kevin Nash, Deputy Registrar & Centre Director, Singapore International Arbitration Centre, Atul Sharma, Managing Partner, Link Legal

### **8.5 Centres for Legislative Studies and Research (CLSR)**

1. The Centre for Legislative Studies and Research (CLSR) at Faculty of Law, Manav Rachna University hosted its inaugural event, a webinar on the theme “The Art and Science of Legislative Drafting” on 10 October 2020. Dr G Narayana Raju Secretary, Legislative Department, Ministry of Law and Justice were the Chief Guest and delivered the Keynote Address. The other speakers at this webinar were Guest of Honour Satya Prakash Legal Editor, The Tribune. PK Malhotra Former Union Law Secretary and Executive Chairperson of CLSR delivered the opening remarks. This online discussion was moderated by Ajay Thomas Director, Faculty of Law and Dr Versha Vahini Head of Department, Faculty of Law moderated the session, and Dr SK Bose Faculty-in-charge of CLSR delivered the closing remarks.

2. To commemorate the constitution day 26th November 1949, Faculty of Law supported by Centre for Legislative Studies and Research hosted a webinar on th theme “It time to overhaul the constitution”. The distinguished speakers of the webinar was Justice Rajive Bhalla, Former Judge, High Court of Punjab & Haryana, Geeta Luthra, Senior Advocate, PK Malhotra, Former Union Law Secretary, Dr Anup Surendranath, Assistant Professor of Law, NLU, Delhi.

3. An online Appreciation Course on Legislative Drafting was conducted in the Month of March 2021 (20-21 & 27-28 March). The resource persons for the Course included Dr. KV Kumar and Dr. Anup Varshney from the Legislative Department of Ministry of Law

### **8.6 MoUs**

Department of Mechanical Engineering signed MoU with CYPE MEP (Mechanical, electrical and Plumbing) on December 15, 2020. CYPE CAD MEP is a program for the design of the envelope, distribution and services of the building using an integrated 3D model with the various elements of the building. Mr. Piyush Mahendru, Asst. Profssor, ME Department is the SPOC from University

Under this MoU the CYPE offering free license of Software for students and faculties.They will organize webinars for the training about the software to students and faculties. They have good software for Building Information Modelling (BIM) and this will benefit to boost student & Job opportunities in MEP.

2 days training programme for ME faculty members and students by CYPE Software on Introduction to BIM software was conducted (Architecture, MEP, Thermal Analysis) on 14 th April and 21 st April, 2021.

### **Activities Conducted Under Previous MoUs**

- WEBINAR ON “3D Printing- Driving the future of Automotive Industry” on 4 th June, 2021 by Altair Experts for faculty members and students. Around 125 participants had participated in the webinar.
- Department of Mechanical engineering organized a Guest lecture on the topic “Introduction to Computational Fluid Dynamics and its applications” on 16th June 2021. The lecture was delivered by Mr. Vignesh Lakshmanan, DesignTech Systems Pvt. Ltd.

CHAPTER: 9

MANAV RACHNA MAKING NEWS

Manav Rachna media coverage is a powerful marketing tool to position our credibility, expertise, and passion to the larger audience. It spreads our activities to a wider audience and helps establish significant connects with stakeholders.

When potential customers see the coverage, it helps to build trust and they sought the advice and expertise of the university in potential areas. It further enables us to stand out in a positive light.



Faridabad News, 09 July 2021: मानव रचना शैक्षणिक संस्थान अपने 25वें वर्ष में प्रवेश करने का वार्षिक उत्सव मनाएगा...

मानव रचना के अध्यक्ष डॉ. प्रभात भल्ला ने डॉ. करण बिल्लू का इस अवसर पर अभिनंदन किया है। डॉ. करण बिल्लू का जन्मदिन 1969 में डॉ. ओपी भल्ला द्वारा...



एनबीटी न्यूज, फरीदाबाद: 14वें मानव रचना कॉरपोरेट क्रिकेट चैलेंज के फाइनल मुकाबले में मेजबान एमआईआई ने दे वर की चैंपियन एशियन अस्पताल की टीम को हराकर ट्रॉफी पर कब्जा जमाया।

मानव रचना द्वारा आठवें संस्थापक दिवस के अवसर पर उठाए गए अनूठे कदम

फरिदाबाद, बी डी कॉलेजिक फरीदाबाद, मानव रचना परिवार ने 'डेव फाउंडर डे' पर महान दूरदर्शी और पथ-प्रदर्शक डॉ. ओ.पी.भल्ला को...

देशाबन्धु

शोध के लिए देंगे 20 हजार करोड़ रुपए : निशंक

फरीदाबाद, 9 जुलाई (दैनिक) प्रयोग के दौरान निशंक परिवार द्वारा शोध के लिए 20 हजार करोड़ रुपए का निशंक परिवार द्वारा शोध के लिए 20 हजार करोड़ रुपए का निशंक परिवार द्वारा...

SkillEd India and RASCI jointly launch a Digital Learning Portal on LMS Platform for skilling the Retail Sector

Each course, under the Retail sector has an on average more than 100 videos/animations, slide shows with audios. Interactive webpage and PDFs to enhance the learning and to show best practices for practical demonstrations.

टीकाकरण में जिला प्रदेस में दूसरे स्थान पर

45 पार के लोगों में उसाह; 8273 लोगों ने लगवाई वैक्सिन, फ्रंटलाइन वर्कर्स, स्वास्थ्य कर्मी और बुजुर्ग भी रहे शामिल। 138 नए संक्रमित, 69 लोग स्वस्थ घोषित।



Manav Rachna University, Faridabad		
Summary of Research & Innovation Data		
Category	Numbers	Details
No. of Publication in Journals	74	Annexure-3.1
No. of Publication in Conference	08	Annexure-3.2
No. of Patents	03	Annexure-3.3
No. of Books/Book Chapters	10	Annexure-3.4
Seminar, Conference & Workshop Organised	47	Annexure-3.5
Consultancy	02	Annexure-3.6
Expert Talk Organised	32	Annexure-3.7
Summer Training and Internship	--	Annexure-4.1

### Annexure 3.1 : No. of Publication in Journals

S.No	Deptt.	Faculty Name	Paper Title	Authors	Journal Name	Details of Publication
1	Chemistry	Vinayak V. Pathak & Megha Bansal	Co-digestion of wheat straw and animal manure pretreated with calcium hydroxide for biomethane production: Kinetic study	Rani, P., Pathak, V.V., Bansal, M.	Current Research in Green and Sustainable Chemistry	Volume-4, Page No.100145, June 2021
2	Chemistry	Pradeep K. Varshney	Metal air battery: A sustainable and low cost material for energy storage	Deepti Ahuja, Kalpna Varshney and Pradeep K Varshney	Journal of Physics: Conference Series	Vol. 1913 (2021), 012065, June-2021
3	CST	Gunjan Chandwani	An approach for document retrieval using cluster-based inverted indexing	Chandwani G., Ahlawat A., Dubey G.	Journal of Information Science	<a href="https://doi.org/10.1177/01655515211018401">https://doi.org/10.1177/01655515211018401</a> June-2021

4	Maths	Dinesh Tripathi	On the Derivative of a Rational Polynomial with Prescribed Poles	Dinesh T., Hans S., Tyagi B.	Journal of Mathematical Inequalities	Volume 15, Issue 2, June 2021, Pages 453-460, June-2021
5	ECE	Yogita Khanna	A single layer wideband metasurface absorber for electromagnetic interference minimization in Ku-band applications	Yogita Khanna and Y. K. Awasthi	International Journal of Microwave and Wireless Technologies	Volume 14 , Issue 5 , June 2021 , pp. 573 – 579, June-2021
6	Mathematcs	Ramapati Maurya	A Note on q-MKZ Operators using Generating Functions	Honey Sharma, Ramapati Maurya	Journal of Classical Analysis	Volume 17, Number 2 (2021), 177–187, June
7	Mathematcs	Aparna Vyas	Minimally Supported Frequency (MSF) d-Dilation Wavelets	Aparna Vyas and Gibak Kim	Mathematics	Vol. 9, 1284. pp. 1-9, June 2021
8	Law	Chaitali Wadhwa	An analysis of the Right to Health in India	Chaitali Wadhwa	IILS Law Review	Volume VII, Issue 1, pg 20-33, June 2021
9	Managemen t	Priyanka Chadha	Antecedents of Indian green consumer purchase intentions and behaviour: A review and future research directions	Gera R., Chadha P.	International Journal of Management Practice	Vol. 14, No. 4, Pages 485-518 May 2021
10	ECE	K.Deepa & Shruti Vashist	Density Based Fuzzy C Means Clustering to prolong Network Lifetime in Smart Grids.	K. Deepa, Zaheeruddin & Shruti Vashist	Wireless Personal Communications Springer	Volume 118, issue 1, May-2021
11	Law	Akansha Ghose	Socio-climatic analysis of Waste Management at household level	Akansha Ghose	Journal of Global Research and Analysis	Volume 9 Issue 1, May-2021

12	Law	Ajay Bhatia	An Empirical Investigation of Quality of Work Life on Teachers' Workplace Happiness during Challenging Times	Ajay Bhatia, Farhat Mohsin, Nandini Srivastava	Empirical Economics Letters	Volume 20, Special Issue 1, May-2021
13	CST	Urmila Pilia & Prinima Gupta	Performance Analysis of Open-Source Image Steganography Tools	Urmila Pilia, Rohit Tanwar and Prinima Gupta	Journal of Engineering and Applied Sciences	Vol. 8(1), Page No.50-67, May-2021
14	Mathematcs	Aparna Vyas	Image Denoising Using Hard Threshold Techniques on Wavelet Transform and Shearlet Transform	Ankita Yadav, Riya Fagna and Aparna Vyas	International Journal of Technical Research & Science (IJTRS)	Volume VI Issue V, pp. 29-38, May 2021.
15	CST	Riya Sapra, Parneeta Dhaliwal	Blockchain: The perspective future of technology	Sapra R., Dhaliwal P.	International Journal of Healthcare Information Systems and Informatics	Volume-16, Issue-2, Article-1, April-June 2021
16	Mathematics	Y.K Sharma	Mathematical Modeling of Crops Production in India: Future estimate	Y K Sharma, Ashish Yadav and Anurag Vashishth	International Journal of Advance & Innovation Research	Vol. 8. Issue 2(1), April to June 2021
17	CST	Manoj Kumar	Automating the Indian transportation system through intelligent searching and retrieving with Amazon Elastic Compute Cloud	Yadav, S., Yadav, D.K., Budati, A.K., Kumar, M., Suri, A.	IET Networks	Volume-10, Issue-3, Page No. 123-128, April-2021
18	CST	Mamta Arora	Cervix image classification for prognosis of cervical cancer using deep neural network with transfer learning	Dhawan, S., Singh, K., Arora, M.	EAI Endorsed Transactions on Pervasive Health and Technology	Volume-7, Issue-27, Art no. e5 April-2021
19	Mathematics	Ruchi Gupta	A Modified Hungarian methodology to solve assignment problem	Sapna, Ruchi Gupta	Journal of Huazhong University of Science and Technology	Volume 50, Issue 04, Page No.1-8, April-2021

20	CST	Urmila Pilania & Prinima Gupta	Stable High-Capacity Video Steganography in Wavelet Domain	Urmila Pilania, Rohit Tanwar and Prinima Gupta	Turkish Journal of Computer and Mathematics Education	Vol.12(7), Page No. 2142- 2158, April-2021
21	Management	Pragati Chauhan	Do Oil and Gas Companies Comply with Requirements of IFRS 6?: Evidence from India and Global Companies	Poswal, D., Chauhan, P.	The Journal of Asian Finance, Economics and Business	Volume 8, Issue 3, Pages.399-409, March-2021
22	CST	Mrinal Pandey	Ensemble-based data modeling for the prediction of energy consumption in HVAC plants	Goyal M., Pandey M.	Journal of Reliable Intelligent Environments	Volume-7, Issue-1, Pages 49–64, March-2021
23	Physics	Aditya Sharma & Shiv Kumar Dixit	Mechanistic insights on improved performance of PCDTBT:PC71BM hetero-structured organic photovoltaic cells via interfacing CdSe/ZnS nanostructures	Nitika, Sakshi Gupta, Shiv Kumar Dixit,, Aditya Sharma, Ankush Vij, Chhavi Bhatnagar, Anita Kumari, Vinod Kumar, B.M. Bahal, Ram K. Sharma and P.K. Bhatnagar	Applied Nanoscience	<a href="https://doi.org/10.1007/s13204-021-01789-5">https://doi.org/10.1007/s13204-021-01789-5</a> , March-2021
24	CST	Urmila Pilania & Prinima Gupta	A roadmap of steganography tools: conventional to modern	Urmila Pilania, Rohit Tanwar, Prinima Gupta and Tanupriya Choudhury	Spatial Information Research (SPIR) (Springer)	29, pages 761–774 (2021), March-2021
25	Chemistry	Arpit Sand	Effects of Reaction Parameters on Water Absorption of Poly(itaconic acid) Superabsorbent Particles Synthesized Inverse Suspension Polymerization	Sand, Arpit; Shin, Nam Jae; Nam, Hyun-Gu; Kwark, Young-Je	Fibers and Polymers	Vol. 22, No.4, Page No. 898-903, March-2021
26	ECE	Bhanu Pratap Chaudhary	A tutorial on cooperative non-orthogonal multiple access networks	Chaudhary B.P., Shankar R., Mishra R.K.	The Journal of Defense Modeling and Simulation: Applications, Methodology, Technology	<a href="https://doi.org/10.1177/1548512920986627">https://doi.org/10.1177/1548512920986627</a> , February-2021

27	Law	Chaitali Wadhwa & Pooja Trehan	Complexities of the workplace for the LGBTQ + Community: A Comparison of India and the United States	Chaitali Wadhwa, Pooja Trehan	International Review of Human Rights Law	Issue VI, February-2021
28	Chemistry	Sudhish Kumar Shukla	Surface Assimilation and Corrosion Inhibition Characteristics of Water Soluble Polyvinyl Alcohol on Mild Steel Surface in 0.5 M HCl Solution	Abhishek Dwivedi, Prem Kumar Bharti, Sudhish Kumar Shukla	Journal of the Turkish Chemical Society, Section A: Chemistry	Vol. 8. Issue 1, Page no. 217 – 228, February-2021
29	Physics	Haider Abbas	Reactivity between medium-sized silicon cluster and NO <sub>2</sub> : first principles study	Ankur Chahal and Haider Abbas	Journal of Molecular Modeling	Volume No. 27, Art No.88, February-2021
30	Management	Rashi Banerji	Cashless Payments in India: An Empirical Study on Credit Card Selection and Usage Preferences	Rashi Banerji	International Journal of Financial Services Management	Vol.10 No.4, Page No.309 - 321, February 2021
31	Chemistry	Harsha Devnani	Supersensitive Detection of Anions in Pure Organic and Aqueous Media by Amino Acid Conjugated Ellman's Reagent	S. Dhawan, H. Devnani, J. Babu, H. Singh, M. A. Haider, T. S. Khan, P. P. Ingole, V. Haridas	ACS Applied Bio Materials	Vol. no. 4, Issue-3, Pg. No. 2453–2464, February-2021
32	Mathematics	Ramapati Maurya	Durrmeyer type modification of (p, q)-Szász Mirakjan operators and their quantitative estimates	Honey Sharma, Ramapati Maurya	Creative Mathematics & Informatics	Volume 30 (2021), No. 1, Pages 97 – 106, February-2021
33	Mechanical	Pradeep Kumar Mouria	Measurement of residual stress on H13 tool steel during machining for fabrication of FSW/FSP tool pin	Ravi Butola, Naman Choudary, Ravi Kumar, Pradeep Kumar Mouria, Mohammad Zubair, Ranganath M.Singari	Materials today: Proceeding	Vol. 43, Part 1, 2021, pages 256-262, February-2021
34	ECE	Lokesh Bhardwaj	Sum rate capacity of non-orthogonal multiple access scheme with optimal power allocation	Bhardwaj L., Mishra R.K., Shankar R.	Journal of Defense Modeling and Simulation	<a href="https://doi.org/10.1177/1548512920983531">https://doi.org/10.1177/1548512920983531</a> , January-2021

35	Law	S.K. Bose	An Insight into Free Speech, Dissent, Right to Protest, Strikes and Lockouts	S.K. Bose	International Journal of Mechanical Engineering and Technology	Vol. 4, Issue-1, Pages 83-91, January 2021
36	Law	Seema Gupta	Are we doing enough to protect ourselves digitally? – An empirical study	Seema Gupta	All India Reporter, Journal Section	All India Reporter, January 2021, Journal section, page 1 ( <a href="https://www.aironline.in">https://www.aironline.in</a> , 19/01/2021), January-2021
37	Mathematics	Aparna Vyas	Comparative Study of Wavelet Transform and Wavelet Packet Transformation in Image Denoising using Thresholding Technique	Ridhi Bhatnagar and Aparna Vyas	International Journal of Technical Research & Science (IJTRS)	Vol. VI, Issue I, January 2021
38	Physics & CST	Shiv Kumar, Nitika & Haider Abbas	Excited State and Charge transfer dynamics in gas phase molecule of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : first-principles study	Nitika, Shiv Kumar Dixit and Haider Abbas	Journal of Molecular modeling	Vol. No.27, Article-27, January-2021
39	Law	Ashima Saxena	Does Aging impacts on Financial Behavior and Investment Decisions	Ashima Saxena	Global Journal of Enterprises Information System	Vol.12, Issue-3, Pg. no. 8-13, January-2021
40	Management	Manmeet Bali Nag	Flexible Work arrangements: A tool of strategic Human Resource Management and Competitive advantage	Jayanti Sahay, Dr Sanjay Srivastava, Manmeet Bali Nag	The South Asian Journal of Evaluation in Practice (SAJEP)	Vol. 44, No.01 (XIV), January – March 2021
41	CST	Susmita Ray	An Analysis of Computational Complexity and Accuracy of Two Supervised Machine Learning Algorithms—K-Nearest Neighbor and Support Vector Machine	Ray S	Advances in Intelligent Systems and Computing	Volume-1174, Pages 335–347, January-2021

42	Chemistry	Priti Gupta	Effect of Polyvinyl alcohol on the physicochemical properties of soil and soil amino acid interaction	Jamal Ahmad Khan, Shagufta Jabin, Priti Gupta	Eurasian Journal of Soil Science	Year 2021, Volume 10, Issue 1, Pages 32 – 37, January-2021
43	CST	Manpreet Kaur	PE-MSC: partial entailment-based minimum set cover for text summarization	Anand Gupta, Manpreet Kaur, Sonaali Gupta, Swati Garg	Knowledge and Information Systems	63, pages 1045–1068 (2021), January-2021
44	Law	Ajay Bhatia	Role of Workplace Happiness in achieving Sustainable Academic Performance: A Study on Selected Private Universities in Delhi NCR	Ajay Bhatia, Farhat Mohsin	World Review of Entrepreneurship Management and Sustainable Development	DOI:10.1504/WREMSD.2021.10036241, January-2021
45	Mechanical	I.K. Bhat	Mechanical physical and wear properties of some oxide ceramics for hip joint application: A short review	Goswami C., Patnaik A., Bhat I.K., Singh T.	Materials Today: Proceedings	Volume 44, Part 6, 2021, Pages 4913-4918, January-2021
46	Law	S.K. Bose	Legal Research-An Inter-disciplinary Approach	S.K. Bose	International Journal of Arts, Humanities and Management Studies (IAHMS)	Vol. 6, No.12, December 2020
47	Law	Som Dutt Bhardwaj	Faculty Development Programmes and Its Effect Of Teaching Learning Process : Study of Institutions For Legal Institutions In NCR	Som Dutt, Archana Sehrawat	Shodh Sarita	Vol. 7, Issue 28, October-December, 2020
48	Chemistry	Megha Bansal	Determination of sun protection factor of vegetable and fruit extracts using UV–Visible spectroscopy: A green approach	Tanya Sharma, Vinika Tyagi, Megha Bansal	Sustainable Chemistry and Pharmacy	Vol.18, December 2020, 100347
49	Mechanical	Sanjay Taneja	Effect of tyre unbalance on performance of vehicle	Sanjay Taneja	International Journal of Mechanical Engineering & Technology	Vol. 11, Issue 12, December 2020, pp. 12-18

50	Mathematics	Kalpna Shukla	Higher order duality for a new class of nonconvex semi-infinite multiobjective fractional programming with support functions	Tadeusz Antczak & Kalpna Shukla	Journal of Applied Analysis and Computation	Vol. 10, Number 6, Page No.- 2806-2825, December-2020
51	Physics	Ananna Bardhan & Dinesh Kumar Sharma	Low latitude ionospheric variations during geomagnetic storms measured using ROCSAT-1 satellite observations	Geeta Rana, Ananna Bardhan, Dinesh Kumar Sharma, Mani Kant Yadav	Indian Journal of Radio and Space physics	Vol. 49, Page no. 171-179, December 2020
52	CST	Mrinal Pandey	A Systematic Analysis for Energy Performance Predictions in Residential Buildings Using Ensemble Learning	Goyal, M., Pandey, M	Arabian Journal for Science & Engineering	Volume-46, Issue 4, Page No. 3155-3168, November-2020
53	ECE	Lokesh Bhardwaj	Investigation of low-density parity check codes concatenated multi-user massive multiple-input multiple-output systems with imperfect channel state information	Bhardwaj L., Mishra R.K., Shankar R.	Journal of Defense Modeling and Simulation	<a href="https://doi.org/10.1177/1548512920968639">https://doi.org/10.1177/1548512920968639</a> , November-2020
54	Law	S.K. Bose	The Intersectionality of Literature Law Culture and Society	S.K. Bose	International Journal of Arts, Humanities and Management Studies (IAHMS)	Vol. 6, Issue-11, November 2020
55	Physics	Aditya Sharma	150 KeV Cu– ion-implantation in SrVO <sub>3</sub> thin films: A study of Cu induced defect states	Himani Saraswat, Surekha Chaudhary, Mayora Varshney, Devarani Devi, Fouran Singh, SO Won, Hyun-Joon Shin, Aditya Sharma	Vacuum (Elsevier)	Volume 181, November 2020, page- 109655
56	Chemistry	Vinayak V. Pathak	Assessment of Indian bioenergy policy for sustainable environment and its impact for rural India: Strategic implementation and challenges	Kothari R., Vashishtha A., Singh H.M., Pathak V.V., Tyagi V.V., Yadav B.C., Ashokkumar V., Singh D.P.	Environmental Technology and Innovation	Vol. No.-20, Art No.101078, November-2020
57	Chemistry	Vinayak V. Pathak	Optimization of direct transesterification of Chlorella pyrenoidosa catalyzed by waste egg shell based heterogenous nano–CaO catalyst	Shamshad Ahmad, Shalini Chaudhary, Vinayak V Pathak, Richa Kothari, Vineet V Tyagi	Renewable Energy	Volume 160, Page 86-97, November 2020



58	Management & Commerce	Parul Jhajharia, Manmeet Bali Nag	Role of Organizational Culture in Driving Employee Engagement: An Empirical Study Of A Leading Two - Wheeler Indian Manufacturing Company	Suneet Soni, Parul Jhajharia, Manmeet Bali Nag	The South Asian Journal of Evaluation in Practice (SAJEP)	Vol.-43, No.-04 (XIII) October-December (2020)
59	Physics	Aditya Sharma	Switchable cool and cold white emission from dysprosium doped SrZnO <sub>2</sub>	Manju, Megha Jain, Pargam Vashishtha, Govind Gupta, Aditya Sharma, Sung Ok Won, Ankush Vij, Anup Thakur	Journal of Physics: Condensed Matter	Volume 33, Number 3, October-2020
60	ECE	Niharika Thakur	Reliability and Power Quality Improvement Under Deregulated Environment Using Enthalpy Based Grey Wolf Optimizer	Niharika Thakur, Y.K. Awasthi, A.S. Siddiqui	Energy Systems	12, pages 31–59 (2021), October-2020
61	Chemistry/ Mathematics	Arpit Sand & Aparna Vyas	Superabsorbent composites (SACs) based on Xanthan Gum -g-poly (Itaconic acid)/Kaolinite	Preeti Sharma, Anju Dagar, Sapna, Aparna Vyas, Arpit Sand	Polymer Bulletin (Springer)	78, 6441–6454 (2021), October-2020
62	Mechanical	Joginder Singh	Effect of Angular Orientation of Continuous Fibers on the Extensional Properties of Carbon Fiber Composites	Joginder Singh, M.R.Tyagi	Lecture notes in Mechanical Engineering	Springer Nature Singapore Pte Ltd. Lecture Notes in Mechanical Engineering, <a href="https://doi.org/10.1007/978-981-15-5519-0_1">https://doi.org/10.1007/978-981-15-5519-0_1</a> , September-2020
63	CST	Jyoti Pruthi	Barriers which impede the implementation of an effective deep web data extraction in vbps	Chaudhary M., Pruthi J.	Lecture Notes in Networks and Systems	Volume 140, Page no. 345-354, September-2020
64	ECE	K. Deepa & Shruti Vashist	Energy-efficient density-based Fuzzy C-means clustering in WSN for smart grids	K. Deepa, Zaheeruddin, Shruti Vashist	Australian Journal of Multi-Disciplinary Engineering	Volume-38, Issue 3, September 2020, Page no.-181-187, September-2020

65	Physics	Aditya Sharma	Approaches to synthesize MgO nanostructures for diverse applications	Jitendra Pal Singh, Varsha Singh, Aditya Sharma, Ganesh Pandey, Keun Hwa Chae Sangsul Lee	Heliyon (Elsevier)	Vol. 6, Issue 9, September 2020, e04882, September-2020
66	Mathematics	Dinesh Tripathi	A Refinement of an Inequality Due to Ankeny and Rivlin	Dinesh Tripathi	Studia Universitatis Babeş-Bolyai Mathematica	Vol. 65, Issue-3, Page no. 325-332, September-2020
67	CST	Mamta Arora	Deep learning in health care: Automatic cervix image classification using convolutional neural network	Arora M., Dhawan S., Singh K.	Lecture Notes in Networks and Systems	Volume 140, Page no. 145-151, September-2020
68	Physics	Jai Prakash Sharma & Aditya Sharma	Structural and electronic-structure investigations of defect states in Cu-ion-implanted SnO <sub>2</sub> thin films	Surekha Chaudhary, Himani Saraswat, Devarani Devi, Pawan Kulriya, Fouran Singh, Sung-OkWon, Hyun-JoonShin, Jai Parkash Sharma, Aditya Sharma	Vacuum	Volume 179, September 2020, 109481
69	ECE	K. Deepa & Shruti Vashist	MDRP: An Energy-Efficient Multi-Disjoint Routing protocol in WSNs for Smart Grids	Deepa K., Zaheeruddin, Vashist S.	International Journal on Smart Sensing and Intelligent Systems	Vol.-13, Issue-1, Pages-1-15, August-2020
70	ECE	Yogita Khanna	Ultra-Thin Wideband Polarization-Insensitive Metasurface Absorber for Aviation Technology	Yogita Khanna and Y. K. Awasthi	Journal of Electronic Materials	Vol. 49, pages 6410–6416, August-2020
71	Physics	Sandeep Kumar	Evolution of magnetic field in a weakly relativistic counterstreaming inhomogeneous e <sup>-</sup> /e <sup>+</sup> plasmas	Sandeep Kumar, Y.K. Kim, T. Kang, M. S. Hur, Moses Chung	Laser and Particle beams	Volume 38, Issue 3, September 2020, pp. 181-187
72	Physics	Aditya Sharma	Probing defects and electronic structure of Eu doped t-Mg <sub>2</sub> B <sub>2</sub> O <sub>5</sub> nanocrystals using X-ray absorption near edge spectroscopy and luminescence	Jitender Kumar, Aditya Sharma, Sung Ok Won, Ravi Kumar, Keun Hwa Chae, Shalendra Kumar, Ankush Vij	Vacuum (Elsevier)	Vol. 180, (2020) Page-109602, July-2020

			techniques			
73	Mathematics	Ruchi Gupta	Differences of Operators of Generalized Szász Type	Arun Kajla, Ruchi Gupta	Khayyam Journal of Mathematics	July 6 (2020), no. 2, Page No.141-154, July-2020
74	Management	Rajat Gera	Investigation of Artificial Intelligence Techniques in Finance and Marketing	Tiwari R., Srivastava S., Gera R.	Procedia Computer Science	Volume 173, 2020, Pages 149-157, July-2020

**Annexure 3.2**  
**Research Publication In Conference**

S.No	Deptt	Faculty Name	Paper Title	Authors	Name and Department of Author belong to ther institution other than MRU	Conference Details	Year of Publication	ISSN/ISBN
1	ECE	Lokesh Bhardwaj	Sum rate enhancement of successive interference cancellation based multi-cell multi-user massive MIMO systems	Bhardwaj L., Mishra R.K.	<b>Ritesh Mishra-</b> NIT Patna	2021 2nd International Conference for Emerging Technology, INCET 2021	2021	978-1-7281-7030-5
2	ECE	Charu Pathak	Dynamics of Charged Particles in Dual Frequency Paul trap due to Additional External Forces	Kansal, A., Pathak, C., Saxena, V.	<b>Anuranjan Kansal-JSS</b> Academy of Technical Education, Noida <b>Varun Saxena-</b> Jawaharlal Nehru University, New Delhi	6th International Conference for Convergence in Technology (I2CT)	2021	978-1-7281-8877-5
3	Mechanical	Ajit Katiyar	Progresses in Solar Still Technology with Phase Change Material	Ajit, Naveen Kumar Gupta	<b>Naveen Kumar Gupta-</b> Associate Professor-MED, GLA University, Mathura	International Conference on Futuristic and Sustainable Aspects in Engineering and	2021	NA

						Technology (FSAET-2020)		
4	CST	Mrinal Pandey	Short survey on machine learning techniques used for diabetic retinopathy detection	Mishra, A., Singh, L., Pandey, M.	<b>Laxman Singh-N</b>	2021 International Conference on Computing, Communication, and Intelligent Systems (ICCCIS)	2021	978-1-7281-8530-9
5	ECE	Charu Pathak	Unequal Amplitudes of Harmonic Terms in Particle Dynamics inside Paul Trap	Kansal A., Pathak C., Saxena V.	<b>Geeta Nijhawan-</b> Department of ECE, Faculty of Engineering & Technology, MRIIRS, Faridabad.	2020 IEEE International Conference for Innovation in Technology (INOCON)	2021	978-1-7281-9743-2
6	Management	Animesh Singh	Predictors Patron's of Green Food Product Purchase Behaviour	Samriti Mahajan, Dr. Rajat Gera, Dr. Animesh Singh	<b>Rajat Gera-</b> Management Dept., Manav Rachna International Institute of Reserach & Studies, Faridabad.	International Conference on Contemporary Issues in Management	2020	
7	ECE	Charu Gupta	Hardware model for efficient edge detection in images	Charu, Kumar P., Singh K.	<b>Pradeep Kumar-</b> Department of Electronics and Communication Engineering, Galgotias University, Greater Noida <b>Kuldeep Singh-</b> Department of Computer Science and Engineering, Delhi College of Technology and Management, Palwal	2020 IEEE International Conference on Computing, Power and Communication Technologies, GUCON 2020	2020	978-1-7281-5071-0
8	Physics	Shiv Kumar	Improved power conversion efficiency of conducting polymer solar cells via	Nitika, Shiv Kumar Dixit, Chhavi Bhatnagar, B.M. Bahal, Anita	<b>Chhavi Bhatnagar, Anita Kumari,P.K. Bhatnagar-</b> Department of Electronic Science, University of	International Conference on Advanced Materials (ICAM-2019)	2020	978-0-7354-1907-0

			incorporation of a DNA-CTMA electron blocking interlayer	Kumari,P. K. Bhatnagar	Delhi, Delhi			
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**Annexure 3.3**  
**Manav Rachna University, Faridabad**  
**Patents Details (Filed/Published/Granted)**

S.No .	Name of Faculty	Department	University	Title of the Patent	Name of All Inventors in sequence	Inventors with MRU/MRIIRS affiliations / others	Date of Filing Patent	Patent Application Filing Number	Patent Status (Published / Filed / Granted)	Date of Published / Granted
1	Sanjay Singh	CST	MRU	Smart Education Framework: Smart AI-IOT based educator monitoring and content availability alert system	Arpit Jian, Aman Kumar, Anand Prakash , Rakesh Kumar, Sanjay Singh Ankur Bhardwaj, Rohit Agrawal	MRU	06.10.2020	2020102616 ( IP Australia)	Granted	25.11.2020
2	Priyanka Gupta, Hardeo Kumar Thakur	CST	MRU	System and Method for Communal Violence detection using social networks based community detection	Priyanka Gupta, Hardeo Kumar Thakur, Binu Dennis & Rajakumar B. R.	MRU	16.07.2020	202011030354	Published	09.10.2020
3	Meena Kapahi, Dr. Arpit Sand, B.M Bahal	Chemistry / Physics	MRU	Multipurpose Medicated and Biodegradable absorbent Material/Pad	Meena Kapahi, Arpit Sand, B.M Bahal, Akansha Ahuja	MRU	31.12.2018	201811049912	Published	21.08.2020

**Annexure 3.4**  
**Books/Chapters/Monographs/Case Study authored by faculty Members**

S.No.	Name of faculty Members	Department Name	Type of Publication 1. Book 2. Chapter	Name of the Book / Chapter / Monograph	ISBN Number	Year of publication (yyyy)
1	Parneeta Dhaliwal, Riya Sapra	CST	Book Chapter	A blockchain solution for the privacy of patients' medical data	978-0-12-821777-1	Jun-21
2	Shilpa Sharma, Amita Malik, Priti Gupta	Chemistry	Book Chapter	Bionanocomposites in tissue engineering and regenerative medicine	978-0-12-821634-7	Jun-21
3	Shailja Gupta	CST	Book Chapter	Future of Augmented Reality in Healthcare Department	2367-3389	May-21
4	S.K. Bose	Law	Book Chapter	Intersectionality of Literature Law and Culture	978-81947778-5-4	Mar-21
5	Urmila Pilania	CST	Book Chapter	Smart Blind Stick for Blind People	978-9-8116-0667-0	Jan-21
6	Meena Kapahi, Vinayak V. Pathak, Roopa Rani, Jaya Tuteja and Sangeeta Banga	Chemistry	Book Chapter	Organic Waste for Biofuel Production	978-3-030-53932-0	Oct-20
7	Rajat Gera	Management	Book Chapter	Diagonal recurrent neural network based prediction model for sales forecasting	978-981-15-7570-9	Oct-20
8	Savita Sharma	Education	Book Chapter in Book- Diversity in Education: Learning in A World of Differences	Emracing Diversity in the classrooms through nurturing Spirituality in teachers	978-93-90154-33-3	Sep-20

9	Versha Vahini	Law	Book	Text book on Competition Law	978-93-8999-128-4	Aug-20
10	Sakshi Bahuguna	Law	Book Chapter: Indo- US Relation vis-a-vis Indian Diaspora in US	India's Foreign Policy and Contemporary Defence Challenges	978-93-89657-50-0	Aug-20

### Annexure 3.5

#### Details of Workshop-National/International

S.No	Department Name	Type of Event	Title of the Event	Level	Venue	Duration	Date(s) (dd/mm/yyyy)		Year
							No. of Day (s) From To		
1	IQAC	Workshop	Learn-to-storytell Your Research Session IV: Learn Social Media	National	Online	1	23.06.2021	23.06.2021	2021
2	IQAC	Workshop	Learn-to-storytell Your Research Session III: Draw Graphical abstract	National	Online	1	16.06.2021	16.06.2021	2021
3	IQAC	Workshop	Learn-to-storytell Your Research Session II: Create Research Highlight	National	Online	1	09.06.2021	09.06.2021	2021
4	IQAC	Workshop	Learn-to-storytell Your Research Session I: Understand Research Visibility	National	Online	1	02.06.2021	02.06.2021	2021
5	ECE	Workshop	Automation in Railways using IOT	National	Online	1	12.05.2021	12.05.2021	2021
6	ECE	Workshop	Introduction to Robotics and Automation	National	Online	1	22.04.2021	22.04.2021	2021
7	Education & Humanities	Webinar	Stress Management During COVID - 19 Pandemic	National	Online	1	22.04.2021	22.04.2021	2021
8	CST	Conference	International Conference on Computational Intelligence in Analytics and Information System	International	MRU, Faridabad.	2	02.04.2021	03.04.2021	2021

			(CIAIS-2021)						
9	Mathematics	Workshop	Non-linear Optimization, Variational Inequalities and Artificial Intelligence	National	online	6	22.03.2021	26.03.2021	2021
10	Law	Webinar	Effective management of Complex Constructions Arbitrations a Master Class	International	Online	1	20.03.2021	20.03.2021	2021
11	Law	Webinar	Consumer Protection Act 2019	National	Online	1	13.03.2021	13.03.2021	2021
12	Law	Webinar	Choose to Challenge: Stereotypes faced by us	National	Online	1	11.03.2021	11.03.2021	2021
13	Law	Webinar	Charcha Law Dialogue	National	Online	1	10.03.2021	10.03.2021	2021
14	Law	Online Competition	Legal Vignette : Online Case Presentation Competition	National	Online	2	27.02.2021	28.02.2021	2021
15	Law	Camps	Legal aid Camps	National		30	18.02.2021	20.03.2021	2021
16	Law	Conference	Round Table Conference - Achieving world peace through Equity and Social Justice	National	Online	1	24.02.2021	24.02.2021	2021
17	Mechanical	Workshop	Renewable energy Sources and Future Energy Needs	National	online	1 week	15-02-2021	19-02-2021	2021
18	ECE	Workshop	Workshop on MIT App Inventor	National	Online	1	11.02.2021	11.02.2021	2021
19	ECE	Workshop	IPR workshop	National	Online	1	02.02.2021	02.02.2021	2021
20	CST	FDP	Xebia TTT FDP "Modern Architecture Patterns"	University	Online	7	22.12.2020 28.12.2020	24.12.2020 31.12.2020	2020



21	Law	Webinar	THE CADR – Manav Rachna Conversation Series	International	Online	1	17.12.2020	17.12.2020	2020
22	ECE	Workshop	Image Processing	National	Online	7	14.12.2020	21.12.2020	2020
23	Law	Webinar	Soft way of Doing Hard Things: Do women make better mediators	National	Online	1	12.12.2020	12.12.2020	2020
24	CST	FDP	Xebia TTT FDP "Natural Language Processing"	University	Online	5	12.12.2020 19.12.2020 26.12.2020 02.01.2021 09.01.2021	12.12.2020 19.12.2020 26.12.2020 02.01.2021 09.01.2021	2020
25	Law	Webinar	Managing Ground Condition Claim	National	Online	1	05.12.2020	05.12.2020	2020
26	ECE	Workshop	Altair FEKO	National	Online	7	04.12.2020	11.12.2020	2020
27	Law	Webinar	Interface between Bigtech and Competition Law	National	Online	1	28.11.2020	28.11.2020	2020
28	Education & Humanities	Webinar	ICT Enabled Learning: Promoting Inclusion	National	Online	1	26.11.2020	26.11.2020	2020
29	Law	Webinar	Its time to overhaul the constitutions	National	Online	1	26.11.2020	26.11.2020	2020
30	ECE	Workshop	MIT App Inventor	National	Online	7	24.11.2020	30.11.2020	2020
31	Education & Humanities	Webinar	RPWD act 2016- A Milestone in the field of Rehabilitation	National	Online	1	10.11.2020	10.11.2020	2020
32	ECE	Workshop	Altair Activate	National	Online	10	05.11.2020	23.11.2020	2020
33	Education & Humanities	Webinar	National Education Policy - 2020 through the Lens of Inclusion	National	Online	1	02.11.2020	02.11.2020	2020

34	CST	FDP	Advance Excel with Data Visualization by DoCST, MRU & EICT Academy- IIT, Kanpur	National	Online	6	21.10.2020	26.10.2020	2020
35	CST	Workshop	AWS Educate Faculty Professional Development- Creating a Virtual Private Cloud using the AWS VPC Wizard	National	Online	1	19.10.2020	19.10.2020	2020
36	Law	Webinar	Art and Science of Legislative Drafting	National	Online	1	10.10.2020	10.10.2020	2020
37	Law	Webinar	How to productively use 5 years at Law school	National	Online	1	03.10.2020	03.10.2020	2020
38	Chemistry	Workshop	NISP Implementation	National	MRU	15	27.08.2020	10.09.2020	2020
39	Law	Webinar	Legal Education in the BRICS	International	Online	1	11.08.2020	11.08.2020	2020
40	Law	Webinar	Mediation and Arbitration: Friends or Foes?	National	Online	1	01.08.2020	01.08.2020	2020
41	Law	Webinar	Weathering the Storm – Energy Disputes, the Energy Transition and Impact of COVID-19	International	Online	1	17.07.2020	17.07.2020	2020
42	Law	Webinar	Clinical Legal Education: International Perspectives	International	Online	1	10.07.2020	10.07.2020	2020
43	CST	Seminar	Agile Software Development	National	Online	1	09.07.2020	09.07.2020	2020
44	Education & Humanities	Webinar	India-China Border Disputes: Historical Background and Present Reality	University	Online	1	09.07.2020	09.07.2020	2020

45	CST	Seminar	Modern Web & Mobile Framework	National	Online	1	03.07.2020	03.07.2020	2020
46	Physics	Webinar cum workshop	X-ray scattering and its application in Nano & material science research	National	Online	1	02.07.2020	02.07.2020	2020
47	CST	Seminar	Python Programming	National	Online	1	01.07.2020	01.07.2020	2020

**Annexure-3.6**  
**Manav Rachna University, Faridabad**  
**Expert talks / Guest Lecture organised**

S. No.	Department Name	Nature of Talk 1. Academic 2. Research 3. Innovation 4. IPR 5. Entrepreneurship 6. Others	Title of the Event	Duration	Date(s) (dd/mm/yyyy)	
				No. of Day(s)	From	To
1	Mathematics	Motivational	Keeping Calm No Matter What	1	29.04.2021	29.04.2021
2	Chemistry	Academic and Research	Application of Quantum in Chemistry	1	16.04.2021	16.04.2021
3	ECE	Academic and Research	Scope of VLSI and EDA domain	1	15.04.2021	15.04.2021
4	ECE	Academic and Research	Future of software development-From Writing code to model based designing	1	15.04.2021	15.04.2021
5	Chemistry	Academic and Research	NMR Spectroscopy: Emerging Analytical Technique for Industry	1	26.02.2021	26.02.2021
6	Management	Academic	Marketing Transformation during Covid 19	1	03.02.2021	03.02.2021
7	Mathematics	Others	Science of Meditation	1	29.12.2020	29.12.2020

8	Mathematics	Academic	Applications of Algebra	1	28.12.2020	28.12.2020
9	Education & Humanities	Academic	ICT Enabled Learning: Promoting Inclusion	1	26.11.2020	26.11.2020
10	Education & Humanities	Academic	RPWD ACT 2016 - A Milestone in the field of Rehabilitation	1	10.11.2020	10.11.2020
11	Education & Humanities	Academic	National Education Policy-2020 Through The Lens of Inclusion	1	02.11.2020	02.11.2020
12	Law	Guest Lecture	Research design and Use of online resources	1	30.10.2020	30.10.2020
13	Mathematics, Chemistry & Physics	Others	Say No To Stress	1	30.09.2020	30.09.2020
14	Chemistry, Physics and Mathematics	Academic & Research	Insight to sensor Technology and its applications in present world	1	29.09.2020	29.09.2020
15	Chemistry, Physics and Mathematics	Academic & Research	Green Chemistry Challenges and Opportunities	1	28.09.2020	28.09.2020
16	ECE	Academic & Research	Motivational Talk:Career Guidance	1	25.09.2020	25.09.2020
17	ECE	Academic & Research	Academic Life Balance	1	25.09.2020	25.09.2020
18	Chemistry, Physics and Mathematics	Innovation and Entrepreneurship	Skilling for innovation in extreme times	1	21.09.2020	21.09.2020
19	Law	Expert Talk in Orientation session	Orientation session	13	17.09.2020	29.09.2020
20	Chemistry, Physics and Mathematics	Research	Secure your Future through Research	1	15.09.2020	15.09.2020

21	Chemistry, Physics and Mathematics	Research	Secure your Future through Research	1	15.09.2020	15.09.2020
22	Chemistry	Academic	Webinar on "The big Butterfly Month 2020"	1	14.09.2020	14.09.2020
23	ECE	Academic & Research	Design Thinking	1	12.09.2020	12.09.2020
24	CST	Academic	MRU Startup and Innovation Policy-2020	1	10.09.2020	10.09.2020
25	ECE	Academic & Research	Lecture series :Cyber Security, IAM Domain and Inroad Path towards it	2	02.09.2020	04.09.2020
26	Law	Expert talk	Understanding Arbitration, Mediation and Conciliation	1	30.08.2020	30.08.2020
27	CST	Academic	MRU Startup and Innovation Policy-2020	1	28.08.2020	28.08.2020
28	Mathematics	Entrepreneurship & Motivational	Challenge the Challenges	1	25.08.2020	25.08.2020
29	CST	Academic	Join Q&A with Ajay Kabra: Different Courses One Direction	1	13.08.2020	13.08.2020
30	Law	Expert talk	Continuing Relevance of Fundamental Duties in these COVID-19 times	1	24.07.2020	24.07.2020
31	Law	Expert talk	Continuing Relevance of Fundamental Duties in these COVID-19 times	1	24.07.2020	24.07.2020
32	Chemistry	Academic	Bringing Butterflies Home	1	15.07.2020	15.07.2020

## Annexure 4.1

### SUMMER TRAINING/ INTERNSHIPS

#### **4.1 Summer Training Modules (In House Summer Training)**

##### **4.1.1 Department of Chemistry**

**Summer training: B.Sc. 2<sup>nd</sup> semester; (2019-2022 batch) Chemistry**

##### **Wastewater treatment in decentralized system and its local reuse**

###### **Learning objectives:**

1. To identify challenges associated with wastewater treatment.
2. To develop understanding about the decentralized wastewater treatment system and its advantages over centralized treatment system.
3. To apply the knowledge for designing a cost effective and efficient decentralized wastewater treatment system.

###### **Topics covered:**

To develop awareness about potential decentralized wastewater treatment including successfully implemented case studies of local reuse of treated wastewater.

1. Chemistry of water and its distribution
2. Global water footprint
3. Wastewater generation and characteristics
4. Wastewater parameters and its analysis
5. Water quality standards (WHO, BIS)
6. Water quality index (calculation)
7. Monitoring of water quality (secondary data)
8. Conventional wastewater treatment process
9. Concept of decentralized wastewater treatment
  - a) Anaerobic treatment
  - b) Aerobic treatment
  - c) Bioremediation
  - d) Solar desalination
10. Case studies on decentralized wastewater treatment systems.

**Summer training: B.Sc. (4<sup>th</sup> semester, 2018-2021 Batch) Chemistry**

###### **Learning objectives:**

1. Students will be able to understand the basics of types of research and identify research problems.
2. Students will be able to explain different ethical issues in research.
3. Students will be able to understand the effective way of the literature review process.
4. Students will be able to explain research data and present data through coding, classification and tabulations.

###### **Topics covered:**

1. Introduction of research methodology
2. Ethical issues in research: Anti-Plagiarism Strategies for Research
3. Identification of research problem
4. Literature review

5. Research design : problems with research design
6. Sampling methods
7. Methods of data collection and presentation

#### **4.1.2 Department of Physics**

##### **Topics to be covered:**

1. Physics of plasma system
2. Linux/Density functional theory (DFT)
3. Fabrication and characterization of nanomaterials
4. Study of ionospheric parameters

#### **4.1.3 Department of Computer Science & Technology**

##### **Post 6th SEM Internship**

Duration: 6 Weeks

##### **Modules**

- **Internship/Project:** Physical/Remote Internship or Web based/App based/ML based Project/Research Paper
- **Online Course:** Coursera/Saylor Academy/Any other E-Learning Platform

##### **Post 4th SEM Internship**

Duration: 6 Weeks

##### **Modules**

- **Internship/Project:** Physical/Remote Internship or Web based/App based/ML based Project/Research Paper
- **Online Course:** Coursera/Saylor Academy/Any other E-Learning Platform

##### **POST 2<sup>nd</sup> SEM**

Duration: 4 Weeks

##### **Modules**

- **Project:** C/Python/UI Project
- **Online Course:** Coursera/Saylor Academy/Any other E-Learning Platform

#### **4.1.4 Department Of Management & Commerce**

##### **Post 2nd SEM**

**Duration: 6-8 weeks**

The students of our BBA specialization program undergo Internship after second semester completion in any of the functional areas of management in the industry. However, due to pandemic the students were enrolled on online platforms like Coursera/ NPTEL/Udemy to upskill on the courses specific to their subject or specialization areas and/or also in interdisciplinary areas of their choice. The above arrangement was approved by the Board of Studies meeting of the department.

##### **Post 4th SEM**

**Duration: 16 weeks/ 4 months**

BBA students of Entrepreneurship & Family Business, Health Care Management, and Operations Management complete their 4th SEM subjects in a fast track mode. The aim is to provide maximum industry experience with increased practical exposure and training. However the students of BBA 4th SEM 2019 batch had enrolled for the online courses to upskill on the courses specific to their subject or specialization areas and/or also in interdisciplinary areas of their choice. The above arrangement was approved by the Board of Studies meeting of the department.

#### **Post 4th SEM**

##### **BBA FAA**

**Duration: 6-8 weeks**

BBA Finance & Accounts students of 4th SEM 2019 batch undertook training by enrolling in the online courses platform of Coursera/Udemy/Edx due to pandemic situation. Few of the students successfully completed their internship training with Atal Incubation Center (AIC-BIMTECH) Noida.

#### **Post 6th SEM**

##### **BBA EFB/OM/HCM**

**Duration: 16 weeks/ 4 months**

BBA students of Entrepreneurship & Family Business, Health Care Management and Operations Management complete their 6th SEM subjects in a fast track mode. The aim is to provide maximum industry experience with increased practical exposure and training. However the students of BBA 6th sem 2018 batch had enrolled for the online courses to upskill on the courses specific to their subject or specialization areas and/or also in interdisciplinary areas of their choice. The above arrangement was approved by the Board of Studies meeting of the department

#### **Post 6th SEM**

##### **BBA FAA**

**Duration: 6-8 weeks**

BBA Finance & Accounts students of 6th SEM 2018 batch undertook training by enrolling in the online courses platform of Coursera/Udemy/Edx due to pandemic situation.

#### **4.1.5 Department of Mechanical Engineering**

- Industrial Internship in Maruti, AirCon Engineering Solutions, Escorts, Sai LPG Products, KAT6 Security System, Sterling Tools, Honda Motorcycle and Scooter Ltd., SunBeam Auto Private Ltd., JCB India, Zivah International Pvt. Ltd., Plasto Metal Corporation Pvt. Ltd., Renewable Energy Pvt. Ltd., Divye Precise Engineering, Godgrej Boyc, Perfect Air Clean Room, Shree Balaji Packaging Group, Action Construction Equipment Ltd., Motherson Sumi and many more.
- Online course on NPTEL, Edx, Coursera, etc. MOOCs provide an affordable and flexible way to learn new skills, advance the career and deliver quality educational experiences at scale.



- Altair Training offers the unique eLearning program in Design and Simulation using HyperMesh, Radioss, Optistruct, SimSolid, Manufacturing, CFD, etc. Students achieved the certifications from Altair University.
- 3D Printing Production offers a range of advantages compared to traditional manufacturing methods. These advantages include those related to Flexible Design, Print on Demand, Strong and Lightweight Parts, Fast Design and Production, Minimizing Waste, Cost Effective, Ease of Access, amongst others. Students learned and developed the projects using additive manufacturing.

#### **4.1.6 Department of Education and Humanities**

Dept. of Education and Humanities, Manav Rachna University undertook an innovative approach to provide enriching experience of internship to the trainee teachers in light of the current pandemic situation. In this regard, one week inter institutional collaborative internship program was organized on virtual mode in August 2021. The aforesaid collaboration was executed in collaboration with Lords Universal College of Education affiliated to University of Mumbai. As every cloud has a silver lining, the current online set up indeed, made the logistical arrangements feasible for the aforesaid internship program, with the two institutions located in far away states. The whole venture turned out to be an extremely insightful learning experience for all the stakeholders involved as validated by the positive inputs received post the event specifically in context of bringing on table the best from the each institute through mutual dialogue and constructive feedback mechanism. Both the institution regard the exercise undertaken to be among their best practices further opening the door for many more such mutually fulfilling endeavors.

Teacher trainees at Faculty of Education and Humanities got opportunity to be appointed as teachers in various reputed schools like St. Anthony School, Homerton Grammer School, Birla international School, Khazani women's vocational institute etc. Besides some of the students also explored varied career options and got selected in Planetpark, EXCELITE Pvt. Ltd, and Asquire Global Financial Solutions in capacity of content writer and online educator.

#### **Students Placement Opportunities**

- Department of Mechanical Engineering witnessed esteemed recruiters including Sterling Tools, Dyson India, Sonalika International Tractors Ltd., JTEKT India Ltd., PolyMedicure, Sidwal Refrigeration, Expert Lancing Research and many more.

#### **4.1.7 Department of Electronics and Communication Engineering**

##### **Internships AS 2020-2021**

**Batch: 2020-2021**

**Learning objectives**

**Modules/topics covered:**

**Duration:-**

Industrial Internship in SNUG Technologies Private Limited (SNUG) which is recognized as a leading technology solution provider, a pioneer in providing professional services and delivering business solutions. SNUG has been an unprecedented leader as a solution integrator with a differentiated vertical approach providing innovation solution in 4 ICT domains:

1. Business Communication Solutions
2. Customer Interaction Management Solutions

3. Enterprise Applications & Consulting

4. Cloud Migration & Virtualization

Internship for a period of Two months along with stipend. Industrial Internship in whirlpool that expects each and every employee to run the business as their own. Whether you are in the factory making sure our machines run well, a graduate engineer learning how to be a leader of tomorrow or a senior manager in any of our functions, the expectation is the same. You'll have the freedom you've not experienced before.

**Outcomes:**

- Realistic learning experiences
- Team work