

## Editor's Desk

At the onset of the year, we wish everyone a very happy, healthy and a mindful New Year- 2021!

We hope and pray that the coming year brings a lot of cheer and happiness in every one's life. The year 2020 had been a year of global distress and turmoil due to the Covid -19, nevertheless it has taught us the crucial life- lessons viz. empathy, fortitude and minimalism. We have indeed grown at yet another level, building our resilience and focus to build on what we possess.

Standing tall to its commitment of skilling the youth of the country, the RUJCT commendably waived off 100 % tuition fee for all the students of BSDU, ensuring unhampered education to them. It was not only a respite to students but also a great breather for their parents at the time of immense dismay and struggle. We are proud to be a part of this organization having such philanthropic inclinations and stand devoted in all its steerings towards spreading knowledge and skills.

Undeterred by the current challenges, the administration and faculty of BSDU took this opportunity to excel in their tasks and this Newsletter stands as a testimony to their efforts and achievements.

The editorial team extends its thanks to everyone involved in bringing out this Newsletter. I hope you will all enjoy reading it!



**Dr. Sangeetha Noval**  
Head, School of General  
Education

## **The New Education Policy**



**Dr. Susheela Sharma**  
Registrar, BSDU

Wishing you all a very happy New Year 2021!

*Education, is the most powerful weapon which you can use to change the world- Nelson Mandela*

The New Education Policy promulgated by the Govt. of India would undoubtedly prove to be a remarkable initiative in reshaping the educational structure in India. Considering the needs and demands of the advancing world, various changes have been suggested in the New Education Policy and it is heartening for us, especially the BSDU family that vocational education has gained a special prominence in it. It is worth mentioning that the BSDU Education policy could envision the requirement and relevance of Vocational Education in the Indian education system even before being introduced by the recent New Education Policy.

The draft NEP constituted by the panel headed by ISRO Chief K Kasturirangan is based on the fundamental pillars such as accessibility, affordability, equity, quality and accountability. This is the first education policy of the 21st century that has replaced the 34-year-old National Policy on Education (NPE), 1986. During this more than a three-decade period, significant changes have taken place in our country in terms of its social status, economic growth and the world at large. The New Education Policy has been formulated through the consultation process for an inclusive, participatory and holistic approach, in accord with expert opinions, field experiences, empirical research, stakeholder feedbacks as well as the outcomes from the best practices in different states and nations.

The NEP has realigned the existing policies in such a way that education may become the pivotal resource for the development of the nation and it could be availed by the common man without any financial and social barriers. It ensures free education for everyone (till the age of 18), without any discrimination of economic status with more accessibility to reduce dropouts because of various factors and scrapping the 10+2 structure for a 5+3+3+4 structure in school education.

Multidisciplinary education which is more aligned with the global education system shall lead to the establishment of top 100 universities in India. Research shall be the primary domain of higher education by one more year being added in the existing 3-year undergraduate degree course. Introducing the multi-disciplinary entry and exit points at the undergraduate level shall prove to be beneficial for students who intend to switch streams or exit courses owing to various reasons.

The emphasis on primary education in respective regional languages and the introduction of Sanskrit language, i. e. following the three-language skills by the NEP. Increase in local ventures and industries would lead to more *Swadeshi* items thus removing the economic disparity. Acquaintance of

formula till class 5 as medium of instruction would prove to be favourable steps for the overall development of students in rural areas.

**Introducing vocational** courses would encourage real **learning in students in contrast to the otherwise prevailing practice of mindless-mugging** and also facilitate bag-free days in school. The rostrum being offered for the students to provide ample opportunities right from the school level to skill themselves through vocational courses would finally make schools a real learning center for them. The primary focus of such courses is to groom the learners' skills by adopting the practical and natural approach, *Learning by Doing* in the real ways.

Exposing students to vocational and skill courses at the elementary level of schooling would result into building a large team of entrepreneurs and competent manpower. The present policy aims to bring forth a team of 'Industry-ready' generation against the 'Degree-ready' team of youngsters being produced by the prevailing conventional education system. This initiative would be a great asset for the development of the individuals as well as the nation.

People from urban and rural areas, invariably prefer jobs in the government sector compared to the private sector. The young aspirants stay unemployed and unproductive for a long time for want of opportunities in the government sector. Such skill-based courses shall prove to be a panoply for the young minds to be engaged in constructive activities befitting their innovative and creative skills.

Skilled youth shall be able to launch and establish some remarkable industrial ventures in India in the form of Micro, Small and Medium Enterprises. The emphasis of our Hon'ble Prime Minister, Shri Narendra Modi on *Vocal for Local* shall add a momentum to the proposed vocational training students with the rudiments of skill education at the elementary level itself would unquestionably help

them contribute towards advanced research and innovation.

In concurrence to the points stated above, the New Education Policy ensures a great revolution in Skill Education generating self-reliance in students and growth & development in the country in a broader perspective.

## MESSAGE FROM DEAN (ACADEMICS)



Commander (Dr) Anil Rana

Dear All,

The field of academics is truly an inspirational one where teamwork and organizational goals matter more than one's own personal achievements. This field is more about fairness, transparency, sacrifice, encouragement to others, ability to tolerate diverse views and opinions, forming consensus for overall benefit and most important of all, allowing maximum learning for students.

The past year has been very difficult for all of us as many of our schools had to cut down the contact hours and replace them with online learning. This was a new experience to all, both students and teachers alike. New learning strategies had to be evolved, newer methods for conducting assessments were put in place. Students without necessary hardware had to be accommodated separately in workshops/classrooms. Videos of equipment operation had to be recorded to replace workshop experiences. Many of you had your first experience with e-platform tools like 'Google classroom' and others. When the pandemic forced closure upon you, many of the staff optimally utilised their time in updating themselves with online courses. Many who never used a video camera earlier became "Directors and Editors of Photography" in their own right. In the end it was

your resilience and resolve that allowed an almost smooth transition to the new era of learning. I would therefore like to take this opportunity and congratulate each one of you for doing your best and seeing that the University performed its educational duty to the best of its ability.

The pandemic has revealed our strength to evolve and survive. It has revealed our tenacious ability to focus on our objectives and ignore the distractions. With this new found strength let us all make a promise to ourselves and to our beloved BSDU that we will take it from strength to strength and do our best to realise the national dream of skilling the Indian youth.

*Jai Hind*

## A PROUD MOMENT FOR BSDU: UGC APPROVAL

It is a proud moment for BSDU on being accorded the status of a University established as per the Section 2(f) of the UGC Act 1956 following the approval of the UGC Commission Report received on 23 September 2020.

The Committee comprising the experts observed that the University had adhered to the required standards and could serve as a model university for skill education. The transparency in its academic activities and governance was highly appreciated.

The image shows an official letter on the letterhead of the University Grants Commission (UGC), Government of India. The letter is dated November 2020 and is addressed to the Registrar of Bhartiya Skill Development University. The subject of the letter is the status of the university as per Section 2(f) of the UGC Act, 1956. The letter states that the university has been approved by the UGC Commission Report received on 23 September 2020. The letter is signed by Dr. Nareesh Kumar Sharma, Under Secretary.

भारत सरकार  
विश्वविद्यालय आयोग  
University Grants Commission  
भारत सरकार, नई दिल्ली-110 002  
(Ministry of Education, Govt. of India)  
विश्वविद्यालय आयोग, नई दिल्ली-110 002  
Bharatiya Karam Samiti, New Delhi-110002  
Phone: 011-23694329, 011-23694325

SPEED-POST

F No.8-14/2017 (CPP-1/PU) November, 2020

The Registrar  
Bhartiya Skill Development University,  
Plot No. SIKHST/001, Social Infrastructure Zone, Mahindra World City, Off Ajmer Road,  
Jaipur-302037, Rajasthan

Subject: Status of Bhartiya Skill Development University, Jaipur, Rajasthan-  
regarding

Sir,

With reference to your letter No. 1002/BSDU/IR/007 dated 13<sup>th</sup> October, 2020 on the subject cited above, I am directed to inform you that Bhartiya Skill Development University, Plot No. SIKHST/001, Social Infrastructure Zone, Mahindra World City, Off Ajmer Road, Jaipur - 302037, Rajasthan has been established by an Act of the State Legislature of Rajasthan as a Private University and is empowered to award degrees as specified under Section 22 of the UGC Act through its main campus in regular mode with the approval of Statutory Bodies and Statutory Councils, wherever it is required and after creating required academic and physical infrastructure facilities including library, laboratories and appointment of teaching and supporting staffs as per the norms and standards laid down by UGC and other relevant Statutory Council (s). The name of the University has been included in the list of Universities established as per Section 2 (f) of the UGC Act, 1956.

Yours faithfully,  
*(Dr. Nareesh Kumar Sharma)*  
Under Secretary

## MOUs SIGNED

In order to provide the best exposure and training to our students, BSDU collaborated with an array of Industries, Educational Institutions, Research and Skill-related organizations. The following MOUs have been signed during the period July 2020 – December 2020:



1.	Kamtech Associates Pvt Ltd, Jaipur	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment
2.	Solar91 Cleantech Pvt Ltd, Jaipur	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment
3.	VUV Solar LLP, Jaipur	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment
4.	Furniture & Fittings Skill Council, Gurgaon	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment
5.	JCB India Ltd Mahindra World City, Jaipur	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment
6.	Ergoflex India Pvt Ltd, Rajhat, Hoogly (WB)	Skilled Based Training, Education, Research and Development	Skilled Based Training, Education, Research and Development and Employment

## SIGNIFICANT ACTIVITIES @ BSDU

### 100% Fee-Waiver for Existing and New Students During the Pandemic

The COVID-19 pandemic caused a serious effect in different forms on the humankind globally. A silver lining at this time of distress is the promulgation of National Education Policy 2020. It would not only bring into prominence the roles of vocational education and apprenticeship but also ensure higher employability of the students through appropriate skill development.

In support of this transformational initiative of the Government of India, **Rajendra and Ursula Joshi Charitable Trust (RUJCT)**, the sponsoring body of Bhartiya Skill Development University (BSDU) Jaipur took a remarkable step of announcing a tuition fee waiver. It was extended to the existing and the newly enrolled students of the university for the session 2020-21 pursuing the B.Voc and M.Voc programmes. The decision was taken considering the financial hardships faced by the BSDU students and to ensure them unobstructed supervised practical training as well.

### Annual Report/Newsletter @ BSDU

The School of General Education brought out the second Annual Report, BSDU July 2019- June 2020 and also the fifth issue of newsletter Jan- June 2020. The editorials documented the various administrative, curricular & co-curricular activities, research initiatives of the faculty in addition to the information from various other offices of the University.



## Webinar on Communication Skills: Key to Personal and Professional Success



Dr. Sangeetha Noval, Associate Professor of the School of General Education presented a webinar on *Communication Skills: Key to Personal and Professional Success* on 7 July 2020. A detailed discussion on the conduct of effective communication and its importance as life skills leading to success in personal and professional life was the main focus of the webinar.

## Webinar on Developing Resilience: Skills You Need

Mr. Kastriot Komani, Project Manager of the School of Health Care and Paramedics Skills presented a webinar on the topic *Developing Resilience: Skills You Need* on 14 July 2020. The concept of resilience and its importance were highlighted in the webinar. Certificates were distributed to the participants.

## Virtual Workshops Series

The School of Electrical Skills organized a series of workshops for the students in the month of July 2020. The details of the events are as follows:

Title of the Workshop	Name of the Expert/s	Date
<i>Smart Grid Skills for the Energy Workforce</i>	Dr. Sujil A and Dr. Satyendra Singh	9 July, 2020
<i>Power Transmission for</i>	Dr. Sujil A and Dr. Satyendra Singh	9 July, 2020

<i>the Energy Workforce</i>		
<i>Workshop on Virtual Lab Session on House Wiring</i>	Ms. Falti Teotia and Mr. Pawan Kumar Choudhary	17 July, 2020
<i>Workshop on Solar Photovoltaic Technology</i>	Dr. Pancham Kumar, Dr. Ritu Tak, and Mr. Kuldeep Kumar	27 July, 2020

## Skill Carnival 2020

A Skill Carnival was organised by the School of Entrepreneurship Skills from 15 - 21 July 2020 in which various serial events were conducted. The poster of the carnival was unveiled by the dignitaries of RSLDC on 10 July 2020 at BSDU.

On the occasion of *World Youth Skills Day* on 15 July 2020, a national level webinar was organised. The event was presided by the IAS officer- Neeraj K.Pawan, Chairman, RSLDC and Secretary, Department of Labour, Skill, Employment & Entrepreneurship. Dr. Achintya Choudhury, President, Bhartiya Skill Development University, Prof. Raj Nehru, Vice Chancellor, Haryana Vishwakarma Skill University, Dr. Lalit L. Panwar, Former Vice Chancellor, Rajasthan ILD Skill University, Jaipur and Dr. Mukta Arora, DGM, RSLDC, Jaipur were the panellists of the webinar.

## Workshop on Smart Manufacturing

On the occasion of the *World Youth Skills Day*, on 15 July 2020 a virtual workshop was organized on the topic - *Smart Manufacturing*. The trainers of the School of Manufacturing Skills, Mr Hemant Sharma and Mr Anirudh Singh Sandu presented their expert views on the *Scope of Manufacturing in India, Contribution of the School of Manufacturing Skills towards Smart Manufacturing in India* and on *Metallic Tape Holder Development Using CAD-CAM-CNC*. The workshop was attended by 50 participants

## E-Quizzes on *Vocal for Local: The Self Reliance Mantra*

The School of Entrepreneurship Skills organized E-quizzes in association with Management & Entrepreneurship and Professional Skills Council (New Delhi), MSME- DI, Government of India & Global Foundation for Skill Development and Entrepreneurship on *Vocal for Local: The Self Reliance Mantra* during the month of July and August 2020. Various students, faculty and budding entrepreneurs participated in them.

## Workshop on Skills Training for Lean Start-ups

The School of Entrepreneurship Skills organized a special skill workshop on *Skills Training for Lean Start-ups* on the occasion of *World Youth Skills Day*. by Dr. Rajdeep Deb, Dr. Anil Aggarwal and Dr. Mredu Goyal, the faculty of SES presented webinars to the budding entrepreneurs and students across the country on 16 July, 2020

## Visit of Princess Diya Kumari at BSDU



The Member of Parliament, Rajsamad (Rajasthan), Princess Diya Kumari visited BSDU campus on 17 July, 2020. She appreciated the BSDU model of Entrepreneurial Skill Training and discussed the future possibilities pertaining to skilling the youth of her district and the state as a whole.

## Webinar on *Industry 4.0 Future Careers*

Phillips Machine Tools India, a part of Phillips Corporation, USA presented a webinar on Industry

4.0 Future Careers on 11 September 2020 in the School of Manufacturing Skills. The invited speaker, Mr Prasad Prabhakar Auti, the Sales Executive demonstrated the details of the topics like Industry 4.0, Future Careers, Future Skills, Education 4.0 and Industry 4.0 Lab. 90 participants benefitted from this expert talk.

## Webinar on *Activities for Building Communicative Competence*

Dr. Purna Srivastava, Assistant Professor, School of General Education presented a webinar on the topic *Activities for Building Communicative Competence* on 29 September 2020. The webinar was conducted by the Training and Placement Cell of Government Polytechnic Gopalganj, Bihar.

A colorful poster for a webinar. The text reads: "Government Polytechnic, Gopalganj, Department of Science and Technology, Govt. of Bihar Invites Faculty &amp; Student of Engineering &amp; Diploma College To Participate in Webinar On 'Activities for Building Communicative Competence' On 29th Sep 2020 At 06.30 p.m Onwards". The organizer is the Training &amp; Placement Cell. The organizing committee includes Dr. Himanshu Ranjan, Mr. Rajesh Kumar, and Mr. Sushil Kumar Gautam. The registration link is provided as "Click Here" or "Scan QR Code". There are two small photos: one of Dr. Anil Kumar Singh, Principal of G.P.Gopalganj, and one of Dr. Purna Srivastava, Assistant Professor at B.S.D. University, Jaipur.

## Webinar on *English: Language to Life Skills*

Dr. Ajay Sharma, Assistant Professor, School of General Education, presented a webinar on the topic English: Language to Life Skills on 4 October 2020 conducted by the Training and Placement Cell of Government Polytechnic Gopalganj, Bihar.

A purple and white poster for a webinar. The text reads: "GOVERNMENT POLYTECHNIC, GOPALGANJ, Dept. of Science &amp; Technology, Govt. of Bihar INVITES FACULTIES AND STUDENTS OF ENGINEERING AND DIPLOMA COLLEGES TO PARTICIPATE IN THE WEBINAR ON English: Language to Life Skills ON 04.10.2020 AT 10:30 A.M. ONWARDS ORGANIZER DEPT. OF SCIENCE &amp; HUMANITIES ORGANIZING COMMITTEE Prof. Himanshu Ranjan, Coordinator Prof. Chandan Kr. Mishra, Assistant Coordinator Mr. Ritesh Kr. Yadav, Technical Support". There are two small photos: one of Dr. Anil Kumar Singh, Principal of G. P. Gopalganj, and one of Dr. Ajay Sharma, Assistant Professor at BSDU, Jaipur (Raj.). A QR code and a registration link "Register Here https://forms.gle/sMxRfzKzg56x5BkQ7" are also present.

## In Commemoration of our beloved Dr Rajendra Kumar Joshi: Founder Chairperson



Remembering Dr. Joshi, the fraternity of BSDU virtually joined together to pay him a tribute on 1 Oct 2020, his first death anniversary. On this occasion, Dr. Susheela Sharma, Registrar, BSDU organized a virtual tribute and Dr. Shekhar Kapoor presented a documentary elaborating the glorious life journey of the iconic figure.

## COVID- 19 Awareness and Mask Distribution Program

On behalf of BSDU, the *Knowledge Resource Centre* organized the **COVID- 19 Awareness and Mask Distribution Program** on 3 November 2020. More than 400 masks were distributed to the pedestrians and people travelling on other vehicles. The event was organized at the DTA Main Gate, Mahindra SEZ, Jaipur. The awareness campaign reached around 3872 people in Mahindra SEZ.



## BSDU: Runner- Up in the COVID Safety Week



BSDU bagged the second prize for the DTA Area in the **COVID- 19 Safety** competition held by the Mahendra World City. The prize was awarded considering the constant efforts made by BSDU for adhering to the safety protocols as well as spreading awareness of the same among people. Dr. Susheela Sharma, the Registrar and Col. RajKumar, the Provost received the award on behalf of BSDU on 9 December 2020.

## First Aid Training for the School of Electrical Skills

A One-Day Training Program was organized on Basic First Aid and CPR by the School of Health Care and Paramedics Skills on 18 December 2020 to train the students of the School of Electrical Skills.



## Cake Mixing Ceremony

The School of Hospitality & Management celebrated the ceremony on 19 December 2020 in which the Vice Chancellor, Registrar, Principals and many Heads of BSDU graced the occasion with their presence. The ritual known as the cake stirring ceremony is the part of an age-old Christmas

tradition of cake mixing which is the symbol of the arrival of harvest season in Europe when lots of fresh fruits, nuts, spices and candied fruits are harvested and used in the making of the traditional plum cake. The ingredients of the festive fruit cake are mixed in advance for up to one month so that they can develop aroma and taste and be ready for baking Christmas cakes.

### **Skill-Selection in Kitchen Star Session**

Jugal Kishor Khatri, student of B. Voc. III Semester-School of Hospitality & Tourism Skills, was selected in Kitchen Star Session -2 (Cookery Show) in Traditional Meetha Category (Dish: Rajasthani traditional Ghewar). It is an authentic traditional Churu Thepda Ghewar. made from the mixture of Maida & Besan. He has shown earlier his skills in many cookery shows like; Amul Together Live Cooking, Cooking Competition by Fabina Group and Cookery Show by Galaxy Rice.

### **In-House Project of Sanitizing Dispenser**

Following the stated guidelines of the Government of Rajasthan, the university took precautionary measures against Covid-19 at regular intervals. In the series of these protocols, School of Manufacturing Skills and School of Metal Construction Skills developed a project of in-house foot-operated hand sanitizing equipment.



15 equipment were designed, manufactured and placed at different locations in the premises of the

university to be used by students, faculty and visitors.

### **Student-Project Exhibition of Woodworking**

To offer an opportunity to the students to experience the nuances of a production process and their critical link to the economics of cost and time parameters, a project work was assigned to the students and it was displayed in the form of an exhibition on 23 December 2020 at the lawns of BSDU.



In this project, each student from 5th Semester of the School of Woodworking Skills was given a task of conceptualising an idea along with time and cost estimate at the beginning of the semester. Each such project was then vetted by a team comprising staff from SWS for its worthiness in terms of complexity, time and cost resource and their availability. The result of the hard work put in by the students manifested in a product form was displayed in the exhibition. The exhibits attracted tremendous appreciation from the staff and students of the University.

### **Communiqué from the HRO**

#### ***New Appointments***

- Mr. Hanuman Prasad Jat, Junior Trainer, School of Woodworking Skills.
- Mr. Mohit Kalal, Junior Trainer, School of Woodworking Skills.
- Mr. Kamlesh Bagra, Junior Trainer, School of Woodworking Skills.
- Mr. Vikash Kumar Naga, Junior Trainer, School of Woodworking Skills.
- Ms. Surbhi Pareek, Trainer-II, School of Electrical Skills.



- Mr. Sumit, Junior Trainer, School of Computing Skills.

#### **Promotions @BSDU**

- Dr. Kiran Shekhawat, AP-II to AP-I
- Dr. Rakesh Choudhary, AP-II to AP-I
- Dr. Mredu Goyal, AP-II to AP-I
- Dr. C.P. Sharma, AP-II to AP-I
- Mr. Pranav Singhal, Trainer-I to Senior Trainer-II
- Mr. Sumit Kashyap, Trainer-I to Senior Trainer-II
- Mr. Bhagwan Sahai Bunkar, Trainer-II to Trainer-I
- Mr. Harendar Singh, Trainer-II to Trainer-I
- Mr. Abhimanyu Kumar, Trainer-II to Trainer-I
- Mr. Krishan Sharma, Trainer-II to Trainer-I
- Mr. Najmool Haque, Trainer-II to Trainer-I
- Mr. Shyam Anand Chaturvedi, Trainer-II to Trainer-I
- Mr. Hemant Sharma, Trainer-II to Trainer-I
- Mr. Deepak Swami, Trainer-II to Trainer-I
- Mr. Munendra Koli, Trainer-II to Trainer-I
- Mr. Kamlesh Kumar Choudhary, Junior Trainer to Trainer-II
- Mr. Gori Shankar Soni, Junior Trainer to Trainer-II
- Mr. Kumar Shanu Sharma, Junior Trainer to Trainer-II

#### **Additional Responsibilities**

- Prof. Binit Kumar Jha has been assigned the duties of Director, Industrial Relations besides being the Professor & Principal, School of Manufacturing Skills.
- Col Raj Kumar has been assigned the duties of Principal, School of Computing Skills besides his own duties as Professor in the School of Telecom Skills and Provost.
- Mr. Arun Kumar Singh has been appointed as Principal-In-charge of the School of Construction Skills and Head- Maintenance & Purchase besides being the Chief Trainer in the School of Construction Skills.
- Dr. Ritu Tak has been appointed as Officiating Principal in the School of Electrical Skills besides her own duties as an Associate Professor in the School.

- Sub Maj (Hony Lt) Amar Singh Shekhawat has been assigned the duties of In-charge HR in addition to his duties as Personal Secretary, HR.
- Mr. Om Prakash Shrimal has been assigned the duties of In-charge, School of Health Care & Paramedics Skills besides performing his duties as Trainer-II in the School.
- Dr Sangeetha Noval has been assigned the responsibilities of the Head of the School of General Education in addition to being an Associate professor in the School.

#### **Training & Placement Office**

Heartly congratulations to our graduating batch and the Training and placement team @BSDU!

It is a proud moment for BSDU that B. Voc. Students, batch 2017-2020, graduated in July 2020 and have been well placed in prominent industries as given in the table. Also a few students have chosen further studies.

<b>Placement Records (B.VOC.VI SEM, 2017-2020)</b>			
<b>S.N</b>	<b>School Name</b>	<b>Student Name</b>	<b>Placement Details/Status</b>
1	SMS	Vishal yadav	Mahaveer Group of Industries, Ajmer
2		Harsh Kumar saini	Johari Digital Healthcare Ltd.
3		Tarun Bakoliya	Mahaveer Group of Industries, Ajmer
4		Nasrudeen Khan	Mahaveer Group of Industries, Ajmer
5		Omprakash Saini	Mahaveer Group of Industries, Ajmer
6		Surendra Choudhary	Placement was offered but started his own enterprise
7		Vikram Hudda	Placement was offered but preparing for Govt. Jobs.
8		Rohit Yadav	Mahaveer Group of Industries, Ajmer
9		Abhishek Mani Tripathi	Placement was offered but started his own enterprise
10		Shubham Yadav	Mahaveer Group of Industries, Ajmer
11		Ganesh Nitharwal	Mahaveer Group of Industries, Ajmer
12		Neelesh Kumar	Johari Digital Healthcare Ltd.

13		Vinay Poonia	R S India, Jaipur
14		Dushyant Singh	R S India, Jaipur
15		Vikash Kumar	R S India, Jaipur
16		Lokesh Kumar	Placement was offered but preparing for Govt. Jobs.
17		Ram Sharma	Mahaveer Group of Industries, Ajmer
18		Aayush Anand	A well-established entrepreneur
19		Md. Noor Islam	A&D International Pvt. Ltd, Bagru
20		Pradeep Sangwan	Ethical Substance Young India Enterprise Pvt. Ltd, Bagru
21		Sooraj Chaudhary	A&D International Pvt. Ltd, Bagru
22	ELE	Hansraj Jangid	R S India, Jaipur
23		Monika Sarodia	RUJ Elecon Pvt Ltd., Jaipur
24		Prince Kumawat	Placement was offered but preparing for Govt. Jobs.
25	SWS	Hanuman Prasad Jat	Bhartiya Skill Development University, Jaipur
26		Kamlesh Bagra	Bhartiya Skill Development University, Jaipur
27		Krishan Chand Sharma	RUJ Woodcraft Pvt. Ltd., Jaipur
28		Mohit Kalal	Bhartiya Skill Development University, Jaipur
29		Rajesh Choudhary	RUJ Woodcraft Pvt. Ltd., Jaipur
30		Vikash Kumar Naga	Bhartiya Skill Development University, Jaipur
31	CON	Arun Kumar	Bhartiya Skill Development University, Jaipur
32	ITN	Sumit	Bhartiya Skill Development University, Jaipur
33	AUT	Ajay Choudhary	Pink City Honda, Jaipur
34		Ashok Kumar Prajapat	KTL Maruti Pvt Ltd, jaipur
35		Ganesh Jakhhar	KTL Maruti Pvt Ltd, jaipur
36		Nemichand	Fleeca Pvt Ltd, Jaipur

37		Rajan	Doing M.VOC.
38		Shubham Yadav	Fleeca Pvt Ltd, Jaipur
39	AUT	Sumit Poonia	Pink City Honda, Jaipur

### **Papers Presented in Conferences/ Seminars/Symposia**

#### **Manisha Sheoran**

- **Title of the Paper:** Life Cycle Environmental Impact Assessment of Crystalline Silicon Solar Panel.  
**Venue & Date:** International online conference on *Emerging Trends in Multidisciplinary Research* on July 23-25, 2020 at Poornima University, Jaipur.
- **Title of the Paper:** Cost Benefit Modelling of 160 KW Grid Tied Solar Photovoltaic Plant at BSDU, Jaipur (Best Paper Award)  
**Venue & Date:** National conference on Recent Advancements in Physical Sciences on December 19-20, 2020 (through online mode) at National Institute of Technology, Uttarakhand.
- **Title of the Paper:** Photovoltaic Waste Assessment in India and its Environmental Impact.  
**Venue & Date:** National Conference on Recent Advancements in Physical Sciences on December 19-20, 2020 (through online mode) at National Institute of Technology, Uttarakhand.

#### **Sumit Kashyap, Krishan Sharma and Dr. Ankur Sagar**

- **Title of the Paper:** Effect of Infill Density on Surface Quality of ABS Material in FDM Technology.  
**Venue & Date:** World Congress on Pollution Control, Jodhpur on July 25, 2020.

#### **Dr. Rajdeep Deb and Dr. Shekhar Kapoor**

- **Title of the Paper:** Digital Technologies for Marketing Innovation at Higher Education Institutes

**Venue & Date:** TSB Online Conference at TAPMI School of Business, Manipal University, Jaipur organized on August 27-28, 2020.

**Pushpa Koranga and Dr. Soma Kumawat**

- **Title of the Paper:** A Review on Comparison of Different Techniques of Image Dehazing  
**Venue & Date:** 5<sup>th</sup> IEEE International Conference of Recent Advances and Innovations in Engineering (IEEE-ICRAIE-2020) organized by Poornima College of Engineering and IEEE Delhi Section, Jaipur on December 01-03, 2020.

**Papers/Chapters/Books Published**

**Manisha Sheoran, Dr. Susheela Sharma, and P. Kumar**

- **Title of the Paper:** Life Cycle Reassessment Strategy for Existing Bulk and Thin-Film Photovoltaic Materials in Indian Context.  
**Journal:** Lecture Notes in Electrical Engineering, Springer Singapore Series, Volume 661, July 2020, DOI 10.1007/978-981-15-4692-1.
- **Title of the Paper:** Life Cycle Environmental Impact Assessment of Crystalline Silicon Solar Cell.  
**Journal:** Test Engineering and Management, July – August 2020 ISSN: 0193-4120.

**Dr. M. S. Shekhawat, H. S. Mali and A. P. S. Rathore**

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**ARTICLES**

***The Post - COVID scenario of the Hospitality and Tourism Industry in India***

**Prof. Mushtaq Ahmed,**  
Principal, SOAS & Hospitality and Tourism Skills,

The *Corona Pandemic* has not only devastated but also adversely impacted the world to the extent that it would never be the same again. In the coming times, people would certainly explore the world, nevertheless, with great caution. In a quest to quench the wanderlust in the post COVID world, people would step out of their routine and seek for places that are safe and hospitable. The responsibility thus is on the hospitality sector to rekindle the confidence among them and respond to the changing trends of tourism.

In India, the hospitality industry is evolving to the contemporary needs as they resume services after lockdown. The central and state governments have issued standard operating procedures and the change is visible at the hotels, eateries and monuments. The security scan at entrances has thermal screening and sanitization added to the checks, the lobbies are being sanitized more often and the staff is more cautious than before.

Many services are turning *contactless* or say *touchless*, while there are many more that cannot be robotized for now. Amid the scenario, those in the sector may be required to acquire additional skills or even would require re-skilling to adhere to the safety procedures. The managers are required to study the market trends, rework the finances, ensure safety protocols and ensure visitors an inexpensive stay. There would still be things such as travel restrictions and infection prevalence in the local city that would stay beyond control or vision of the tourism and hospitality stakeholders. The sector thus must return to a 'new normal' with baby steps.

The new beginning would have an increased emphasis on the local tourist as foreign visitors are likely to remain less for some more time. The local guests would be more inclined to go for short weekend stays, the Rajasthan Tourism department is already promoting 'short safe stay' at the popular getaway destinations. The effort has been reasonably successful as 40 percent occupancy was reported from tourist cities on the *Indian Independence Day*. Such package deals for weekend getaways would continue to attract visitors from nearby cities looking for a break from their day-to-day routine. Individual hotels/resorts or state departments may design similar packages to suit needs of the potential tourists.

These visitors, local or foreign alike would prefer a destination where they can be assured of the safety standards. Increase in area per cover, partition per table outdoor seating, live cooking for guests to see every step of food production, use of digital menus,

disposable crockery and cutlery napkins, drive through online food delivery and take outs are going to be the order of the day. For business travellers, city hotels may continue to be boarding and lodging places with strict SOPs for Covid-19, however, leisure travel would be more resort centric with a lot of open space. In addition, there would also be a class of those who would look forward to spend quality time with friends and family in a safe environment and for them, the heritage and theme hotels and luxurious resorts may come as their first preference

The hospitality and tourism sector definitely has a lot on its platter of consideration. They aspire for a stimulus package from the government to help retain its lost glory. After all, the industry in India accounted for 8.1 % of jobs and 9.2 % of GDP in 2018. It has survived through the hiccups of global recession in 2007-9, the H1N1 pandemic of 2009-10 and even the recent downtrend in the world economy. It had displayed an uptrend in the beginning of 2020 as in the month of January it registered Foreign Tourist Arrivals (FTAs) including FTAs on e-Visa of 14,99,417 compared to 13,94,347 during January 2019 showing an increase of 7.5 percent as per the official data of Ministry of Tourism Government of India.

How much ever, the government may like the industry to regain its lost volume and turnover, it has its own limitations. They might not be able to waive the travel and gathering restrictions as the industry might wish or even arrange funds to suffice stimulus package in accordance to the industry needs.

The prevailing uncertainty on the future of the industry and millions employed in the services, vaccines for Covid-19 is a ray of hope. World Travel and Tourism Council is also devising new travel protocols in consultation with various stakeholders and travel industry associations as confidence building measures and to set clear expectations and compliances for travellers including 'Immunity Passport' for Tourists to

confirm presence of Covid-19 Antibodies. The fact that almost 90 percent of the domestic hotels in China have resumed business and that the Wuhan province of the country, which reported the first outbreak of the virus is now returning to normal, is also an assurance of a better tomorrow for the industry. It is assumed that by the winter season of 2021-22, business would be as usual for the Hospitality Industry in India. Once again there will be tourists arriving from all over the world to explore the mystic magnificence of India, its rich culture and grand heritage. The tourists would return but safety procedures are here to stay, the industry for now needs to display resilience and innovation along with its spirit to provide a safe and comfortable experience to the guest.

**Soli: *Interaction with Technology that Feels Human***

**Dr. Sumitra Singar,**  
Assistant Professor  
School of Computing Skills

As humans, we understand each other intuitively, often without saying a single word. When you walk behind someone, they hold the door open for you. When you reach for something, they hand it to you. And when you happily raise your hand towards a friend, they reciprocate with a high five. Being able to understand each other without words heightens our ability to connect, communicate and go about our lives with ease. What if we could experience a similar ease of connection and communication when we interact with technology? Yes, a human can interact with technology and can feel it. The solution is Soli.

Soli is a powerful chip or a miniature radar that understands human motions at various scales: from the tap of your finger to the movements of your body. Google ATAP or Advanced Technologies and Projects, built Soli from the ground up from an impossible idea: to create a radar small enough. Over the course of five years, they invented, designed and built the Soli radar chip and platform, taking it from

early-stage prototypes to a single solid-state component that can be integrated into consumer devices.

Soli will ship in the Google Pixel 4 phone after years of iterative design and engineering, working with experts in semiconductor design, signal digital processing, algorithm development, machine learning and interaction design. It's only recently that Google figured out how to reduce the size of this radar chip and fit it on the front of the smartphone, still ensuring accuracy. And that's why it is coming to Pixel 4. A custom-built ML and data collection pipeline allowed them to design a robust ML model. Using this model, Soli can reliably understand a large range of possible movements. In the case of Pixel 4, the model runs on device, never sends sensor data to Google servers, and helps it interpret the motion to Quick Gestures.

Soli's radar emits electromagnetic waves in a broad beam. Objects, such as a human hand, within the beam scatter this energy, reflecting some portion back towards the radar antenna. Properties of the reflected signal, such as energy, time delay, and frequency shift capture rich information about the object's characteristics and behaviors, including size, shape, orientation, material, distance and velocity.

By processing the temporal signal variations and other captured characteristics of the signal, Soli can distinguish between complex movements to understand the size, shape, orientation, material, distance and velocity of the object within its field. Soli can sense movement at 360°. It is always sensing to detect movement at a very low power. It has smart detection capability to detect objects and motion through various material for flawless interaction. It is not a camera and does not capture any visual images. Soli is aware of your presence. Soli anticipates when you want to interact. Soli actively recognizes and responds to your gestures.

Soli aims to understand the nuances of human movements so that we can use our natural body language and gestures as a form of input.

Created an interaction framework that groups human movements according to levels of proximity and engagement between the user and Soli: aware, engaged and active. The framework is based on regular human nonverbal communication models. The Soli movement library consists of units of interaction which can be used to build complex interactive experiences that go beyond touch and voice. Soli is aware of the location of the people in its sensing area, just like you are aware of someone entering into your room.

Google's Pixel 4 will be the first device with Soli, powering Motion Sense which allows you to skip songs, snooze alarms and silence phone calls, without touching your phone. These capabilities are just the start, and just as Soli technology improves over time, Motion Sense will evolve as well. Motion Sense will only work in countries where this radar tech has been approved for consumer use. The list includes "US, Canada, Singapore, Australia, Taiwan, and most European countries." India has not yet given a go-ahead for this technology.

The custom Soli chip greatly reduces system design complexity and operates with low power consumption. Developed and evaluated chip designs based on two modulation architectures: A Frequency Modulated Continuous Wave (FMCW) radar and a Direct-Sequence Spread Spectrum (DSSS) radar. Both chips integrate the entire radar system into a small package, including multiple beam forming antennas that enable 3D tracking and imaging. And, unlike traditional radars, Soli has no moving hardware components.

The Soli interaction pipeline implements algorithmic stages of increasing data abstraction from raw radar signal to application-specific gesture labels. This pipeline uses several stages of signal abstraction: from raw radar data to signal transformations, a custom-built machine learning training infrastructure for abstracting features, detection and tracking, gesture probabilities, and finally, UI tools to interpret gesture controls.

This sensing paradigm is efficient for on device bandwidth constraint systems and does not require high spatial resolution. In fact, Soli's spatial resolution is coarser than the scale of most finger gestures. Instead, Soli's fundamental sensing paradigm relies on resolving motion by extracting subtle changes in the received radar signal over time. By processing these temporal signal variations, Soli can identify and recognize complex movements within its field. The Soli libraries extract real-time signals from radar hardware, outputting signal transformations, high precision position and motion data, and gesture labels and parameters at frame rates from 100 to 10,000 frames per second.

Lightweight and hardware agnostic, interaction pipeline allows to use the same algorithms and software on different types of radar. Its efficient implementation enables touchless gesture interaction on low-power and cost-effective embedded platforms used in wearable, mobile and IoT applications.

The first gadget to be embedded with these radar chips is an Android Wear smartwatch and in a quick demo Google showcased how moving your hand close to the watch wakes up the screen and flicking your fingers lets you scroll through the menu or a message that you have received. This new way of interacting with a device, say a smartwatch, can prove to be more efficient as you get more precise control and also your finger doesn't get in the way like in the case of a touchscreen.

Another interesting use case of the tiny radar chips was in speakers. A working prototype of a JBL speaker showed how bringing your hand closer wakes up the speaker, snapping your fingers plays music, snapping it again stops it and when you move away it shuts itself down.

The Soli radar chip works on the 60 GHz spectrum frequency as it has the least interference for the kind of minute movements Google wants to



track. However, the 60 GHz spectrum is not commercially usable in India. The 60 GHz band is also known as V-band using IEEE 802.11ad protocol. V-band (57-64 GHz) may be explored for allocation to the telecom service providers. But that is yet to happen. Without this USP available in the country, it would not have made much sense for Google to bring the pricey Pixel 4 to India.

***Incubation Centres: Where your dreams can come true!***

**Dr. Mredu Goyal,**  
Assistant Professor

School of Entrepreneurship Skills

*Do you dream to establish your own Start-Up?*

*Do you have doubts concerning the process of establishing a Start-Up? Yes?*

*Then you should know all about incubation centers and what they can mean for your big dreams.*

The key role played by business incubators in augmenting the entrepreneurial process cannot be challenged. Technical, advisory and administrative hand-holding support services extended by incubators for establishing a start-up, paves way for unparalleled feats in future.

Incubator works as a life giving centre. When a baby is born, he/she is kept in the incubator for the first few hours and maybe days- this gives them a chance to adjust to the outside environment, and grow stronger before they face the outside world. In a similar way, start-ups are incubated in incubation centre, which offers them an opportunity to bring their business in shape, before they reach out to the mercurial world of entrepreneurship.

The role played by a Business Incubator in fostering growth of the young minds can be listed as follows:

- They help budding entrepreneurs to overcome their teething troubles by nurturing them at early-stage.

- Appropriate mentoring and all-equipped ecosystem is offered for operations.
- Value-added services like legal, financial, technical, IPR and mentoring to incubatees help them for their sustainable development.
- It serves as a platform for speedy commercialization of technologies developed.
- It facilitates business networking for better and faster enterprise growth.
- It reduces the failure rate of Start-ups.

On May 12, 2020, Hon. PM Narendra Modi pitched the nation to go **Vocal for Local**. With more acceptance of Indian brands, the role of incubators is going to be upgraded in India with new trends. It is the time, when we should focus on more incubators as they enhance entrepreneurship thus increasing employment. It drives the young minds to attempt more innovative solutions, find new markets, add more value to economy and create jobs thus paving way towards inclusive sustainable development of the country.

***Goal Setting & Overcoming Challenges***

**Dr. Shekhar Kapoor,**

School of Entrepreneurship Skills

A ship without a radar, an envelope without an address or a human being without a goal goes nowhere. Goals are like missiles that might go zig-zag or take you to various crests and troughs in your life, but ultimately you will hit your destination. If you want to have a balanced life, you must understand that you can't accomplish multiple things at the same time. Develop a habit of saying 'No' to things that would deviate you from achieving your goal. Maintain a sequence of priority in your life and whatever your success parameters are, you would be able to achieve them if you keep SMART goals for yourself, i.e your goals should be Specific, Measurable, Achievable, Realistic and Time-bound. With changing times, the goal setting model has also become SMARTER, where the letter E & R in this acronym

would stand for Evaluate and Review. You should review your goals as in what went wrong, what went well and what could be better. Apart from this model, your goals could also be in the written format wherein you bring your thoughts from your head straight onto a paper by the help of your hands. In this psycho-motor neural activity, your goal would be in front of you most of the time, thus transmitting positive signals to your conscious as well as sub-conscious mind. It is well said that what goes out of your sight also goes out of your mind. So, keep them straight and upright in front of you and follow them to achieve your goals.

Challenges are essential in life and if you can't face challenges in your life, you can't change your life. They can either make you or break you, choice is yours: whether you become victim or victorious. You have to decide and be mentally strong, but not strongly mental for you have to take the challenges in making your life better. Face the challenges and fight your fears as fear depends upon your mind-set and its nothing more than some false evidence that might appear real to you. Criticism will also follow you in the path of success. But do not feel tensed or worried while facing those critics. Treat all those criticism as a stepping stone towards your successful career and move on towards your life. Sometimes you have to get knocked down lower than you have ever been, to stand up taller than you ever were and every phase of our life teaches us a lesson; it depends upon us whether we analyse those lessons, or just turn on the pages. Destiny is sometimes a jewel and sometimes it is an ordinary stone. When it is a jewel- wear it with all humility and when it is a stone- bear it with all your ability.

#### ***Advantages of Water Based Refinish Paint Over Solvent Based***

**Mr. Krishan Sharma,**  
Trainer, School of Automotive Skills

As the world is advancing, there is a great increase in vehicle traffic due to which the automobile service sector is on the move. The consumption of paint is increasing drastically including its threats on the environment. Most of the automobile service sector relies on solvent based paint containing high amount of volatile organic compounds which adversely affects the environment. After years of research, the market has come out with water based paints comparatively having less volatile organic compounds, thus reducing the level of pollution. Water based paints are better than solvent based paints in all means except for cost efficiency. They are expensive compared to the solvent based paints, however the difference is negligible. The manufacturers have replaced the thinner in water based paints with controller/distilled water, this reducing volatile organic compounds by 70 percent in water based paint. These paints have also eased the procedure and time in the application of paint by reducing the number of coatings as it requires only one and half coat of basecoat compared to the two and a half coats of solvent based. It has not only reduced health hazards for painters but also improved their efficiency.

#### ***Scope of Electricals, Electronics controls and their safety in Refrigeration and Air Conditioning***

**Ms. Nikita Singh,**  
Trainer, School of Electrical Skills

In the past, air conditioning was confined to winter comfort; that is, heating the home to a comfortable temperature in the winter by means of open fireplaces or stoves. Later, decided improvements were made in the heating equipment by the introduction of steam and hot water heating, but air conditioning was still confined to summer comfort. Less than fifty years ago, human beings were contented to be comfortable in winter helplessly enduring the sweltering humid heat of summer. Until recently, modifying the summer heat as well

as warming the house in the winter was an unknown factor in our daily lives.

As air conditioning has developed, many improvements such as removing dust from the air to create a thoroughly heating condition, have widened its scope and use, not only for human comfort, but also in many manufacturing processes where the use of air conditioning has become so extensive that it is a must. By cleaning the air, controlling the amount of moisture in the air, and maintaining the air at a proper temperature, great improvement is shown in the quality of the products and savings are made possible by the reduction of material spoilage attributed to dust, bacteria or fluctuating temperatures.

The scope of air conditioning in industry is enormous. It is worthy to specialize in commercial air conditioning, because industrial plants of all kinds require properly engineered and adjusted air conditioning systems. Electricals, Electronics and Controls for RAC is built in with the assumption that the student has no prior knowledge of electricity or control systems. Basic electrical theory is presented in a practical, straightforward manner. Mathematical explanations are used only when necessary to explain certain concepts of electricity.

The electrical components are now a complex system in the field of refrigeration and Air conditioning. Besides the design and operation of the individual components, knowledge about the interaction of the components in circuits is an important learning objective.

Electricity is an extremely powerful force and should never be treated in a careless manner. The air conditioning and refrigeration technician commonly works with voltages ranging from 24 volts to 480 volts. One mistake can lead to serious injury or death. Never work on an energized circuit if it is possible to disconnect the power. When possible, use a three-step check to make certain that the power is turned off. The three-step check is as follows:

1. Test the meter on a known live circuit to make sure the meter is operating.

2. Test the circuit that is to be de-energized with the meter.

3. Test the meter on the known live circuit again to make certain that the meter is still operating.

Install a warning tag at the point of disconnection to warn people not to restore power to the circuit.

Of all the rules concerning safety, this one is probably the most important: No amount of safeguarding or idiot-proofing a piece of equipment can protect a person as well as the persons taking time to think before acting. Many technicians get killed by the supposedly dead circuits. Do not depend on circuit breakers, fuses, or someone else to open a circuit. Test it before touching it. While working on high-voltage equipment, insulated gloves and meter probes designed should to be used on the voltage being tested.

Certain pieces of equipment can be especially hazardous if you are not aware of them. Some central air conditioning units use a main contactor that has only one set of contacts to disconnect a 240-volt circuit. The contactor operates on the principle that a complete circuit must exist for current to flow. If one line is broken or open, no current can flow to the compressor. The hazard lies in the fact that one of the 240-volt lines is still supplying power to the unit. If a technician should touch the unbroken line and ground, a 120-volt circuit is completed through his body. Other contactors employ two load contacts to break the circuit to the compressor. This type of contactor is much safer and can prevent a serious injury.

### ***The Growing Importance of Software Tools in Developing Pv Based Microgrid***

**Ms. Surbhi Pareek,**  
Trainer II, School of Electrical Skills

The evolution of microgrid (decentralized group of electricity sources and load) has placed many new demands on the development and performance of

its various components. The major components of a microgrid are different types of power sources that are integrated at a place to feed to load. Out of various power sources, the solar photovoltaic system (PV) is a very important component used in a microgrid.

Solar, nowadays is considered as the purest and easiest form of energy source available on earth. It is the eco-friendliest way of generating electricity with a minimum running cost. Thus bringing a revolutionary change visibly in the power sector including India which alone is targeting to generate 100 GW (GigaWatt) of power through Solar by the year 2022 which means ample job opportunities would be generated in future. The development of solar plants is not only limited to hardware setup but it is also extended to other services like supporting tools and software. After the government's emphasis on the Solar project as well as the fast pace of PV market growth, software application has become an integral tool for improving the designing, construction, and ongoing operation of PV solar system

To get the estimated solar energy yield of a PV system creating a computer simulation is required and this can be easily done using solar PV software. Whether it is a small residential project or it is for commercial purposes, solar PV simulation is important. Now the question arises that why such type of simulation software is required. So to determine the expected output value of solar energy plant as per the peak sun hour (PSH) and geographical position, to determine kWh (kilowatt-hour) yield per year, performance ratio, CO<sub>2</sub> emission, Shadow analysis (shading effect) etc. such type of simulation software is required. Apart from that, it also provides financial reports in terms of the Payback period, return of interest, and many more. This software is also helpful in simulating the inverter even though now take some inverter companies provide their solar PV simulation software.

The salient feature of these software makes them very special. The most amazing part is that a person having very basic knowledge of Solar can be an expert in these simulation tools. These software are very user-friendly that is their functions are not so complex hence make the work so efficient. This software is very reliable in terms that they are free from bugs and can quickly solve any program error. It is flexible in working that you can easily design a solar PV system for any place either it is a ground-mounted project or roof-mounted or parking area. These software can accommodate the designer's requirements. The accuracy and precision of such software takes them to the next level that is they are very helpful to provide best solar energy forecast using historical data and statistics and user will also get a better idea of Return and investment.

After getting a brief idea about the features of simulation software now let's have a look at various solar PV software which are very helpful and famous in the solar designing field. Some of these softwares are PVsyst, PV\*Sol, Helioscope, Homer, Sketchup, Skelion, Solarpro, PV F-chart, and NREL SAM (National Renewable Energy Laboratory Solar Advisor Model). These tools are very useful for any solar PV contractor, consultant, or engineer. Each of these software has different functions and uses like PVsyst is a PC software package for the study, sizing, simulation, and data analysis of complete PV systems. It is suitable for grid-connected, stand-alone, and DC-grid (public transport) systems, and offers an extensive meteorological and PV-components database. PV F-Chart is a comprehensive photovoltaic system analysis and design program. PV\*Sol Software help in the design, simulation, and financial analysis of photovoltaic systems ranging from small off-grid residential systems to large commercial grid-connected and utility-scale systems. The program provides monthly-average performance estimates for each hour of the day. Sketchup and helioscope are useful to design the 3D and 2D model of the plant-based on its

geographical and landscape position and NREL SAM is designed for economic and performance analysis of renewable and project including solar. Similarly, each of the software has its importance and its application which is very important to design and to form a PV based solar system for a microgrid.

It is also very helpful in integrating Solar with other sources of electricity and in designing a whole system including its component designing as well.

### ***Goods and Services Tax- 2021***

**Ms. Kritika Tekwani,**

Research Scholar

As per the new notification 94/2020 issued by the CBIC, there shall be following changes in the GST mechanism from the year 2021.

- **QRMP- (Quarterly Return Filing and Monthly Payment of Taxes):** A registered person who is required to furnish a return in FORM GSTR-3B, and who has an aggregate turnover of up to Rs. 5 crores in the preceding financial year, shall be eligible for the QRMP Scheme. The quarterly GSTR-3B filing option will be available from 1 January 2021 onwards. This scheme will not apply to registered taxpayers whose previous year turnover has been more than Rs. 5 crores.
- **New Sub Rule 59(5):** Taxpayers will now not be allowed to furnish form GSTR 1 (Outward supplies bill wise) if they have not furnished their Form GSTR 3B (Consolidated outward and inward supplies) for the preceding two months.
- **New Rule 86(B)- Mandatory payment of tax by 1% of output tax liability in cash:** As per this new rule, the taxpayers would not be able to use the amount available in their electronic credit ledger (Cash, Credit, and liability) to discharge their liability towards output tax over 99% of such tax liability, in cases where the value of taxable supply other than exempt supply and zero-rated supply (export), in a month, exceeds Rs.50 lakhs.

- **Rule 36(4):** The Registered taxpayers can only avail 5% of ITC pertaining to outward supplies not declared by their suppliers in Form GSTR-1 (Previously it was 10%), which is reflected in GSTR-2A/2B.
- **Validity of the E-way bill:** Earlier one day was permitted for a distance up to 100 km under the E-way bill provision. Now the limit has been increased to 200 km.
- **Insertion of FORM GST REG –31:** A new form has also been introduced which gives the intimation for suspension and notice for cancellation of registration.

These amendments in the GST mechanism would not only make the system robust, but also bring transparency and regularity in it



**Student-Project Exhibition of Woodworking**



**Launching of 2<sup>nd</sup> BSDU Annual Report**



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