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#Let'sBeatCoronaTogether

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COVID-19 Crisis and Education: A Student Centered Online Approach @ OPJU, Raigarh

R D Patidar* and Ashok Bhansali**

COVID-19 pandemic has affected every sector of life across the globe, be it economy, businesses, manufacturing, or education. The rapidly evolving situation around the pandemic poses a whole lot of challenges to the functioning of higher education institutes in the country and whole world. Probably universities and regulatory bodies never thought of such a situation and we did not have a contingency plan in place. Universities, under such unprecedented situations, didn't have many options and were forced to go online. This sudden paradigm shift is set to disrupt the university functioning and creating lots of issues, challenges, and conflicts, but at the same time it offers an opportunity to evolve ourselves and transform the Higher Education Sector across the globe.

After the declaration of closing the institution on 16th of March 2020 by the government of India and a further announcement of lockdown 1.0 on 24th March 2020, followed by lockdown 2.0 and 3.0, the OP Jindal University (OPJU), Raigarh quickly adapted to the challenging situation and continued all its operation without any interruption. This paper illustrates the evolution and adaption of new online functioning model for the effective engagement of OPJU students and; their examination and placement during COVID-19 and lockdowns. For each item we have described the situation, handling mechanism and finally the observations.

Gainful Engagement of Students

At the time when students were asked to leave the campus, the university session was running and the courses were in the middle of completion. At the beginning of the COVID-19 outbreak there was a scenario of fear and despair in the society; and students were mentally upset and stressed. It was really challenging to complete the course with meaningful engagement and at the same time take care of students' emotional and mental status.

At OPJU we quickly evolved a model and framed SOPs to minimize the academic loss and actively engage the students in online classes, laboratories, evaluations and different related activities, which are Discussed here.

Online Teaching-learning

OPJU was quick to adapt to the situation and shifted to the online mode of teaching-learning. Faculties started using Zoom,

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Google Hangouts/meet, Skype, Google classrooms, Moodle Learning Management System (LMS), Virtual Labs, Google forms, YouTube, etc to deliver classes, submitting assignments, and conducting laboratories. Everybody quickly learned screen sharing, annotations, lecture recording etc and managing cyber security and safety issues as well.

Usually any change is resistive and changing the mindset is difficult, especially of the faculties. We conducted many online faculty development programs to gear up to adapt changing pedagogies and helped quickly re-orienting faculties to the online mode. A weekly plan of the online class schedule for each class was updated in the Google sheet and was monitored by the respective deans of different schools. Even Deans, HoDs and VC used to join different classes randomly for 5-10 minutes to observe the class conduction and their feedback really helped improving the quality. Ph.D. course work and progress of all the Ph D scholars are being delivered and supervised in an online manner.

As we were already using Virtual Programming Lab (VPL) over the model with jail server for programming laboratories so it didn't cause any problems except writing a lot of test cases. For many other labs, we used virtual labs available online and recommended by AICTE.

Continuous Online Evaluation

Research findings suggest that students learn better by attempting more and more quizzes and so at OPJU we started paying more attention to quizzes, case studies and short assignments for continuous evaluation.

The Moodle proved to be a very useful tool at OPJU in uploading course material, assignments, case studies, and quizzes. The students submit the assignments on Moodle that are evaluated by faculties and feedback was shared immediately. Daily short quizzes on all subjects of 10-15 questions with 25-30 minutes, with gamification, were very effective.

Webinars and Virtual Sessions:

Our faculties are in continuous interaction with students and parents and spreading awareness about COVID-19 safety and precautions through emails, whatsapp, social media posts, and creatives including videos, graphics, etc. To make students and faculties emotionally stable and to expose them to contemporary and future needs of the industry and market, we organized many webinars and sessions. During

COVID-19, till now, OPJU has hosted 50+ webinars on the following topics:

- COVID-19 Awareness Sessions
- Faculty Development Programs
- Career Counseling Sessions for Students
- Stress and Anxiety Management
- Impact of COVID-19 on Higher Education
- Expert Technical Sessions on Different Topics and Fields
- Yoga and Meditation Therapy and many more...

Observations

- i. After an initial inhibition, the students and the faculty both became accustomed and comfortable with online classes. Over the period of time, many faculties were excited and explored many different new tools and platforms to enhance the teaching-learning experience.
- ii. Students' attendance also improved in the online class vis-à-vis traditional class. Students also appreciated the sharing of lecture recordings and class notes/PPTs over moodle/google drives.
- iii. We observed that by privately messaging one another behind the scenes, students were able to discuss and learn many things, which is not possible in traditional class.
- iv. Class wise WhatsApp groups proved to be very effective in sharing the class scheduling details. Assignments deadlines, and keeping in touch with the students one on one.
- v. The research data shows significantly increased research contribution of the scholars during lockdown.

Examination and Evaluation Scenario

To conduct examination is a major challenge for universities in India if the lockdown continues and/or universities remain closed for the next few months. Final year students are more worried and concerned because many of them want to join jobs or higher education. UGC too recommended conducting online examinations if the university has the required resources and competencies. We at OPJU are having good IT infrastructure and competent manpower, however maintaining the sanctity and integrity of examination is the most important parameter to take care of.

We have decided that the university will conduct end semester theory examinations in an online mode for its final-year students during 15-31 June, over OPJU

Moodle. We may follow the same online examination model for the intermediate semester as well. The practical examination, projects/dissertations, and viva-voce will also be conducted in an online manner.

We studied many paid proctored solutions for the examination but none addresses the issues of poor bandwidth and cross-functionality across devices and platforms. All these platforms are too demanding in terms of network bandwidth and device capabilities. Ultimately we started working hard to create a robust and secured platform and mechanisms to handle all the issues and problems of bandwidth, poor connectivity and diverse gadgets on our own using OPJU Moodle Cloud.

As a pilot and Proof of Concept (PoC), we have already successfully conducted a mid-semester examination of some of our students in the last week of April 2020. Special sessions have been carried out by the senior faculty and leadership team to guide the faculty for setting question papers while maintaining the sanctity of the exams. This Pilot project was implemented across all the schools of the university for around 40 subjects and it was a great success. Two types of questions were asked in the mid-semester examination i.e. Objective type (Multiple choices, True False, Matching, One word) and subjective type (Short & Medium Answer). A dashboard was made available to the faculty members to evaluate the subjective questions and compile the grade sheet in an automated fashion.

We have systematically structured and divided the slots of for online viva-voce over zoom which will be taken by Faculty in-charge and external experts from industries. Project and Dissertation too are being presented in an online manner in one on one session with the candidates. We will conduct the Research Degree Committee (RDC) meetings too in an online mode if the situation demands. An online progress tracker is in place to gauge the progress continuously and address the issues.

Observations

- i. We observed that if faculties are motivated and trained properly they can create a very good questions suitable for online assessment.
- ii. We must have a dedicate a team of expert resources for handling any eventuality with moodle system and students' problems at the last moment and last mile.
- iii. Faculties must be trained on using moodle and students must be given multiple exam kind of

assignments to make them comfortable and at the same time to test the performance of the exam server.

- iv. RAM and server computing power requirements must be calculated correctly and also the staggered logging and long password plays a very important role in server peak time performance.

Functioning of Career Development Centre

By the time lockdown started our approx 80% of students had already been placed but students and parents were anxious by the news items and social media posts regarding revoking, revising or delayed joining by many companies. At OPJU the internship is an integral part of the curriculum and apart from training and placements, CDC takes care of internships as well. In the new COVID-19 scenario, except IT, E-comm, and a few other companies, almost all industries are unwilling to take Interns.

Placements

We at OPJU could sense the campus recruitment challenges during the pre-lockdown period itself and shifted our strategies accordingly. In the sudden change of scenario, we were forced to cancel a few of the scheduled drives, but soon we started figuring out the companies whose business is on the rise during COVID-19 and quickly adapted to the new online norms. We started contacting companies them and extended them all the help and support for conducting virtual campus drives, from arranging online tests over OPJU MOODLE to Group Discussions (GDs) and Personal Interviews (PIs) in a virtual online fashion.

During lockdown we interacted with our recruiters and had talks with them one on one. Most of them are having opinion honour the offers made but joining may be delayed depending on the COVID-19 situation.

Career Development Centre (CDC) is helping students sharpening their skills and making them ready for the post-COVID-19 employment scenario. We are leveraging online tools for conducting mock interviews, preparing digital portfolios, reviewing resumes, and grooming them. We are interacting with each individual student and helping him revising career goals and preparation.

Internships

COVID-19 situation and subsequent guidelines from UGC and AICTE encouraged us to evolve our own model for internships, which is apt for the situation and changing scenario. We had many discussions with Deans/HoDs/faculties, brainstormed the situations,

opportunities and options; and evolved a model, which offers different internship options to the students as below:

- i. **Physical Internships:** The students can opt for physical internships with a company-provided proper care of social distancing, sanitization, and company for COVID-19 situation assures safety.
- ii. **Virtual/Online Internships:** The students can opt for online/virtual internships, in the form of Work From Home (WFH) model, offered by various companies or by various websites like Internshalas, letsintern, etc.
- iii. **Online Courses:** The students can opt for any relevant course from a credible online platform with approx 70-100 hours including hands-on with the technologies. They can club many courses as well.
- iv. **Research and Projects:** We encourage students to work on innovative research and projects. We encourage students to publish papers, join conferences and participate in different hackathons/competitions. Students need to specify a problem statement and get approval from the concerned department. He must submit a weekly plan, project flow, and weekly progress report and complete documentation to the faculty mentor.
- v. **Entrepreneurship and Innovation:** OPJU established an Atal Community Innovation Centre (ACIC) in association with NITI Aayog, Government of India under the Atal Innovation Mission (AIM). We provide support and mentoring to the students to get into the entrepreneurship domain and make the best use of COVID-19 time. A detailed report - ideation, case studies, feasibility, challenges, finance, etc., is desired to get into this.
- vi. **University Offerings:** As per the guideline of the UGC and AICTE, all the schools of OPJU are offering project-based internship courses to the students like Artificial Intelligence, Machine Learning, Data Analytics, Business 4.0, and Industry 4.0. In addition to above a few internships also offered for digital marketing.

Observations

- i. Core companies like manufacturing, automobile,

service sector, may revise and delay the offers but we don't foresee any problems with IT, sales, marketing, BFSI and retail sector.

- ii. Many edTech companies, analytics organizations, and e-commerce firms have increased hiring and we need to explain this to students to realign their mindset with the changing market scenario.
- iii. Though the physical internship is very difficult but we believe that COVID-19 has opened up an entire spectrum of new Internship models and opportunities for the students, which is far better and broader than traditional internshi.
- iv. Indeed, some of our students got selected in good companies at very good packages, as high as 10 Lacs Per Annum (LPA), through a completely virtual hiring process.
- v. We feel the need to revisit and revamp the curriculum to the changing market scenario.

The Way Forward

The COVID-19 pandemic forced higher education institutions across the globe to leverage the technologies and effectively use it to disseminate the knowledge. The situation hard-pressed the much-desired push to the universities to go digital in a full-fledged manner. It really helped OPJU to explore and experience new possibilities to do things differently and with greater flexibility.

We at OPJU strongly believe that during COVID-19 technology has stepped into the breach and now it will continue to play a key role in all operations of the university functioning. We believe that a 6" screen can never be a replacement of a 6 feet teacher and 6 feet blackboard in the classroom. However, we would like to and continue harnessing the power of technology-driven solutions in teaching-learning-evaluation, admission, administration, research, etc.

We are in the process of designing a new prototype and post-COVID OPJU will adopt this new blended model, which will be an amalgamation of best of both - online model and traditional practices.

The higher education world post-COVID-19 will definitely be - Different, Better, Superior. □

Unlocking the Lockdown during the Pandemic: Setting a New Normal for Indira Gandhi National Open University Learners

Manjulika Srivastava*, Bijayalaxmi Mishra**, Dev Kant Rao***, Navita Abrol****,
Vandana Varma***** and Bharat Bhushan*****

Reinventing and rejuvenating at the time of crisis and converting challenges to opportunities, Higher Educational Institutions (HEIs) chose the path of digitalization. The initiatives of the Ministry of Human Resource Development (MHRD) were phenomenal in motivating HEIs to go online. The pandemic appears to have steered the education sector forward with technological innovation and advancements.

Although IGNOU has been the leader in offering education at a distance, yet the pandemic has all the more strengthened IGNOU to face the challenges of using online platforms to continue its activities and carry out its teaching learning and student support activities uninterrupted. The pandemic proved a catalyst in making a shift from face-to-face counselling to online methods of tutoring and counselling by the IGNOU both from the Headquarters as well as from Regional Centres. The University conducted more than 42500 academic counselling sessions effectively using varied technology enabled means.

The present paper was an attempt at showcasing the strength of the University in tackling this unprecedented crisis, in unlocking the lockdown.

‘Necessity is the mother of invention’ the popular adage has never been so appropriately proved as during the COVID-19 Pandemic. The impact of the pandemic has hardly spared any sector to have gone disarray.

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It is needless to mention that the education sector is also witnessing a major upheaval due to the pandemic among other sectors. The slow pace of adaptation to newer technologies has been comparatively less in the education sector which still struggles with the traditional teaching and learning process worldwide. Even developed countries have not come out of the cocoon of the age old mode despite innovations in technologies have contributed to newer and acceptable methods for imparting education. Commenting on this phenomena, the World Economic Forum also stated, “The slow pace of change in academic institutions globally is lamentable, with centuries-old, lecture-based approaches to teaching, entrenched institutional biases, and outmoded classrooms” (Tam & El-Azar, 2020). Against this backdrop, it is being predicted that the slowest among all sectors in adapting to technology, has been the education sector, which is expected to spring surprises in innovations in teaching and learning activities during these unprecedented times. It has been observed that the transition from legacy Information Technology (IT) to cloud computing; the expansion of retail and banking into the mobile space; the rise of machine learning, artificial intelligence, and smart automation; and the growth of the IT were, among other massively transformative technologies, at the heart of a generational forward evolutionary leap. And it is therefore not surprising that these very technologies have enabled businesses, governments, healthcare systems, students, and workers to adapt to the maelstrom of disruption caused by the pandemic and by sudden and oftentimes draconian efforts to mitigate it (Newman, 2020). This transformation is expected to set a new normal, hitherto, been hindered by multifarious impediments.

India, one of the major players in the knowledge revolution of the 21st Century, has geared up to combat the challenges thrown by the pandemic in the education sector. Digital transformation in India has been spectacular in recent years enabling innovative technologies penetrating to ease the cumbersome and traditional means in several sectors including education. However, the higher education sector which is critical to the country’s economic growth has been disrupted to

a considerable extent. The internet users in India which is expected to reach 650 million by 2023 (Statista, 2020), which has been one of the most ubiquitous means for achieving this unprecedented challenge thrown by the pandemic. Such a huge number of internet users also has strengthened Government's hand in undertaking digital learning initiatives; accelerated hands on learning through Free/Libre and Open Source Software for Education (FOSSEE) *e-Vidya*; as part of the Government's COVID-relief package *Atma Nirbhar Yojana*. Under this scheme, the Government has proposed to allow the 100 top universities in the National Institute Ranking Framework (NIRF) to offer online degrees. Thus, amidst a gloomy scenario during the pandemic, sincere efforts are being made to make higher education innovative.

Objectives of the Study

The present study was undertaken with the following objectives:

- To highlight the directives of Government of India and initiatives of UGC for HEIs during the pandemic;
- To document the initiatives taken by IGNOU for the conduct of counselling for its distance learners during these unprecedented times; and.
- To define new normal for IGNOU learners during the pandemic.

Methodology

In this study, content analysis was employed to study the academic activities conducted by the National Open University in compliance with the directives of the Ministry of Human Resource Development, Government of India and the notifications issued by the University Grants Commission (UGC) during pandemic period. The authors identified themes based on the functions performed by the University and studied the following documents: Weekly Reports of the University submitted to MHRD (between the period 23rd March, up to 17th July, 2020) and notifications and circulars issued by the University during the lockdown period. Document analysis was used as the research method. Self-structured tools were developed for thematic analysis, i.e. examination and interpretation of the documents on the major theme: academic counselling as a part of learner support. The documentary data was analyzed together with observations of the authors who have a varied experience ranging from 11 to 30 years of working at the National University across different departments. Observations of the authors

were used to refine and corroborate the data, for ensuring its credibility, as rightly suggested by Bowen (2009). Descriptive analysis was used for reporting the outcomes of the study and graphical presentations to explicitly highlight the findings.

Directives of the Government of India: Defining the New Normal

The Ministry of Human Resource Development (MHRD) issued the first directive to all chairpersons of apex bodies to take full precautionary measures to fight COVID-19 pandemic, as the security of students was top priority, while maintenance of academic calendar and examination schedule was equally important. Maintenance of communication by HEIs with all stakeholders through electronic means was vital to reduce the anxiety arising out of the pandemic. This was the first communication sent by the Ministry on 18th March, 2020 (MHRD, 2020a). Thereafter press releases were made directing all HEIs to comply with the UGC advisories and circulars issued from time to time. The MHRD issued instructions to all HEIs to make full use of available Information and Communication Technologies (ICT) infrastructure for continuing teaching learning activities during the lockdown period, including the digital/e-learning platforms like SWAYAM and SWAYAM PRABHA (MHRD, 2020b). Soon after, the Government of India declared a nationwide lockdown on 23rd March, 2020.

To ensure the safety and wellbeing of all teaching and non-teaching staff working at HEIs, the MHRD issued the order to work from home. Besides, to keep the morale of the educational fraternity high and ensure utmost utilization of time, the MHRD issued instructions for development of online content; online teaching, working towards online evaluation, preparation of lesson plan, question banks, undertaking research, writing research articles, and innovative projects (MHRD, 2020c). MHRD also publicized the use of *Arogya Setu* app created by the Government of India to fight COVID-19 (MHRD, 2020d).

The Union Minister of MHRD launched a week long '*Bharat Padhe Online*' campaign, inviting suggestions from the academic fraternity to give a boost to online education on 10th April, 2020 (Press Information Bureau, 2020a).

Breaking the traditional chalk and talk method, the efforts of the Government has been witnessing a positive impact on the ongoing teaching learning activities; there is a noticeable upsurge in the use of

digital learning through use of digital resources which has gone up five times in the recent past during the period of the lockdown (MHRD, 2020e). The trend is certainly a silver lining amidst the crisis as more and more academic fraternities explore the possibilities of alternative mode of teaching and learning.

Some of the novel initiatives by the Finance Ministry, Government of India also supplemented the initiatives of MHRD including PM e-VIDYA, an effort to unify all efforts related to digital/online/on-air education; DIKSHA (one nation-one digital platform) to enable multi-mode access to education; SWAYAM online courses in Massive Open Online Courses (MOOCs) format for school and higher education; IITPAL for IITJEE/NEET preparation; Air through Community radio and CBSE *Shiksha Vani* podcast; and study material for the differently abled developed on Digitally Accessible Information System (DAISY) and in sign language on NIOS website/ YouTube to benefit nearly 25 crore school going children across the country. Further, by liberalizing ODL regulatory framework by permitting top 100 universities to start online courses and raising the bar fixed on online course from 20 percent to 40 per cent, the government is planning to expand the base of e-learning and online education related activities at HEIs (Ministry of Finance, 2020).

e-PG Pathshala and *Vidwan* are also some of the innovative endeavors of MHRD in providing access to e-content in 87 Undergraduate courses with about 24,110 e-content modules and database of experts and information about experts to peers, prospective collaborators, funding agencies, policymakers and research scholars in the country respectively.

The teachers and academic fraternity are being benefited by such consolidated efforts of the Government. Students enrolled in HEIs can undertake SWAYAM courses and earn credits after completing these courses (MOOCs: 82 UG and 42 PG level courses) which will be on offer from the July semester 2020 (MHRD, 2020f).

In addition, MHRD launched YUKTI (Young India combating COVID with Knowledge, Technology and Innovation) web portal on 11th April, 2020, which intends to cover the different dimensions of COVID-19 challenges in a very holistic and comprehensive way. Through this portal, the Ministry's endeavor to ensure that students, teachers and researchers in higher educational institutions are getting appropriate support to meet the requirements needed to advance their

technologies and innovations. Recently, YUKTI 2.0^o was launched by the MHRD India to help systematically assimilate technologies having commercial potential and information related to incubated startups in our higher education institutions. The platform is expected to act like an online market where people who sell ideas and buy ideas will coexist. It will act as the missing link between innovation and commercialization (Press Information Bureau, 2020b).

Another unique initiative has been taken by the MHRD to boost the morale and psychological wellbeing of the students during the pandemic is *Manodarpan*. The scheme *Manodarpan* is an initiative of the MHRD to provide psychosocial support to the students who have been affected by the disruptions caused due to the closure of educational institutions. The advisory has been issued to students, families, faculty members and the differently abled learners. The teachers have been advised to send positive messages to students and to extend emotional support (Press Information Bureau, 2020c).

Initiatives of the University Grants Commission

The UGC on receiving directives from the Ministry of Health and Family Welfare (MHFW) and the MHRD in early March, 2020, directed all HEIs to close their offices as a preventive measure in a mission to combat the spread of COVID-19 and reduce its transmission. A detailed advisory of dos and don'ts was spelt out, for compliance by all universities and colleges (UGC, 2020a). Thereafter several advisories were issued to HEIs to take precautionary measures. The UGC also advised all HEIs to leverage the potential of ICT in the teaching learning process giving reference to the resources available that were developed under the National Mission on Education through Information and Communication Technology (NMEICT) project of the MHRD (UGC, 2020b).

The UGC informed all HEIs to postpone all evaluation related activities including examinations to the period after 31st March, 2020 and to maintain electronic communication with the students (UGC, 2020c). The first order to work from home for all faculty, non-academic staff and research scholars of HEIs, was issued by UGC based on the directive received from MHRD, advising the faculty and research scholars to develop e-content; engage in online teaching; online evaluation; develop instructional materials for the next semester; undertake research; write research articles;

develop questions for question banks; and prepare innovative projects (UGC, 2020d).

In the meantime, UGC also recommended the usage of other ICT initiatives of the MHRD and UGC namely: online courses on SWAYAM platform; UG/ PG MOOCs; e-modules of PG courses on e-PG *Pathshala*; e-content of UG courses on CEC website; telecasts/ lectures video programmes on DTH SWAYAMPURABHA channels; videos on CEC- UGC YouTube channel; academic content on National Digital Library; digital repository of theses/ dissertations on e-*Shodhganga*; e-journals and databases on e-*ShodhSindhu*; database of experts on *Vidwan*; in order to facilitate the teaching, learning and research activities through ICT (UGC, 2020e). The major objective has been to ensure continuity in educational processes and to empower the HEIs to continue with the teaching learning activities uninterrupted through digital means.

In its endeavour to improve the quality of HEIs, UGC directed all HEIs to adopt the UGC Quality Mandate outlined in eleven e-books; and to propose Institutional Implementation Plans by constituting task groups for the same (UGC, 2020f).

The UGC has also been issuing advisories for the safety and wellbeing of the students. HEIs were instructed to set up online help lines for attending to resolving student problems; providing mentoring support through various media including social media; forming self-help groups; and sharing links of important websites related to mental health and wellbeing, and downloading of the government app for monitoring the spread of the COVID-19 (UGC, 2020g; UGC, 2020h).

The UGC constituted two committees to deliberate on the issue of examinations and the academic calendar under the chairpersonship of vice chancellor of Central University Haryana; and another committee to deliberate on Online Education under the chairpersonship of Vice Chancellor of the Indira Gandhi National Open University (IGNOU). The recommendations of the former committee were issued in the form of 'Guidelines on Examinations and Academic Calendar for Universities in View of the COVID-19 Pandemic and subsequent Lockdown', which were advisory in nature and flexibility was given to HEIs with regard to their implementation keeping the student's safety on top priority (UGC, 2020i). In continuation to these guidelines, the HEIs were also given instructions regarding conduct of internships online from the confines of the homes of the students

and if required delay the start of internships and reduce the period of the internships (UGC, 2020j). UGC also directed universities to set up a cell for handling students' grievances related to examinations and academic calendar. UGC introduced a separate helpline, and a task force to monitor the grievance redressal of students, teachers and institutions (UGC, 2020k).

In order to encourage HEIs to use the MOOCs available on the SWAYAM portal for the benefit of the students, 82 UG and 42 PG are available for the July 2020 semester, for adoption by universities through their Academic Councils. Further, examination for these MOOCs would be conducted by the National Testing Agency (NTA) in mid- November 2020 (UGC, 2020l).

Considering the financial difficulties of the students during the pandemic, UGC has also directed all HEIs to consider alternative payment options till the situation returns to normal and empathetically deal with such issues related to payment of fees (UGC, 2020,m).

To further the promotion and dissemination of AYUSH practices, UGC has directed HEIs to encourage stakeholders to download the AYUSH *Sanjivani* App to facilitate wider participation in the study undertaken by the Ministry of AYUSH to address COVID-19 (UGC, 2020n).

In light of various directives of Government of India and subsequent initiatives by MHRD and UGC to combat the unprecedented stress due to COVID 19 pandemic, the IGNOU, mega University of Open and Distance Learning (ODL) has also undertaken certain initiatives in various spheres of teaching learning process including 'Academic Counselling' to reduce the anxiety of distance learners and to ensure there is no disruption in the teaching learning process.

Initiatives of the Indira Gandhi National Open University

IGNOU being National Open University caters to more than 11 lakh learners currently enrolled with the help of its 56 Regional Centres and more than 1800 Learner Support Centres spread across the length and breadth of the country and abroad. University responded to all communications received from Ministry and Statutory bodies well in time and in fact this period saw several initiatives taken by the University for improving/reviewing/consolidating the Policies and Guidelines of the University. In compliance with the Government of India directives regarding safety

measures to combat the spread of global COVID-19 pandemic including social distancing and complete lockdown, the University on 21st March, 2020 advised its teachers, academics and non-teaching staff to work from home. On 27th March, 2020, the University requested the teachers and academics of the University to utilize this period for various academic activities including development of online content, online teaching and evaluation; develop self-learning material for the courses to be offered during next academic year/semester; and prepare innovative questions for question banks, writing of research articles; amongst other academic activities. Reports of the activities conducted which were documented on weekly basis. During this period of 118 days, the University submitted 16 Reports comprising data of 17 weeks to MHRD (as activities of weeks 1 and 2 were combined into a single report). It is noteworthy during this period the University launched 12 Online programmes; 46 MOOCs on SWAYAM platform including an online degree programme; more than 100 CBCS courses were launched; more than 500 units were written and more than 1500 units were edited and revised; more than 750 courses comprising 2800 blocks were uploaded on IGNOU Mobile App; and 350 courses comprising 1100 blocks were uploaded on eGyankosh. In addition, the academic content was transmitted through GyanVani and regular broadcast of academic content through Gyan Darshan, Gyan Dhara and Swayam Prabha channels housed in state of the art Electronic Media Production Centre (EMPC) and Centre for Online Education (COE) of the University. Lakhs of assignments were received online and had been evaluated. Thousands of online counselling sessions were organized using various online apps and web-enabled academic support including email (IGNOU, 2020). Since it would not be possible to detail out each initiative taken by the University, the authors chose to focus on the initiatives taken by the University in transacting the academic curricula through academic counselling sessions conducted during this lockdown period for uninterrupted teaching learning.

Academic Counseling at IGNOU: An Overview

Academic counselling is an important component in the teaching learning process. The curricula is mainly transacted through the self-learning materials (SLMs), which are a combination of print and audio/video programmes and academic counselling in the form of personal contact programmes for problem solving, feedback and guidance. Academic counselling is provided to the dispersed learners to break their isolation and for enabling them to interact with the

academic counsellors who are the subject experts/teachers, as well as their peers. This is an opportunity for the distance learners to clarify their doubts after going through the SLMs. Counselling sessions facilitate the learners to be on track and also stay motivated throughout their period of study. Besides academic issues, the learners can also resolve their personal and administrative problems through discussions with the academic counsellors who conduct these sessions.

The Indira Gandhi National Open University (IGNOU) provides academic counselling to its learners through multiple channels which also includes limited face to face sessions at its Learner Support Centres (LSCs) and educational broadcast and telecast through television and radio channels. The face to face academic counselling sessions are organized for both theory and practical courses at LSCs which are monitored by the academics at the Regional Centres. There is no concept of student attendance in these sessions conducted for theory courses, but in all practical courses attendance of minimum 80 per cent is required to ensure proper transference of required competencies and skills to the learners through proper hands on training. The other channels used by the University for providing academic counselling services to its learners are: GyanDarshan a web based TV channel used for telecasting video programmes and also live interactive sessions; GyanVani, a broadcast channel used for broadcasting audio programmes and also for live interactive radio counselling; online web based audio counselling through GyanDhara; other web based services such as a dynamic website that is data rich and has a separate Student Zone; e-resources on a web based portal: eGyankosh; the IGNOU Student app; email; videos on YouTube; audios on Podcast; FaceBook and Twitter on Social Media; an online grievance redressal portal i-Gram; and a Web Enabled Academic Support (WEAS) portal.

The Pandemic Experience

The lockdown, closure of academic institutions including Learner Support Centres and adoption of social distancing measures; necessitated the need for IGNOU to conduct all activities “virtually” using all forms of electronic media, multimedia and digital/online communications for the continuity of its functioning and more so for its teaching learning processes. The University has since the 1990s had invested heavily in the development and production of interactive media to supplement its instructional material mainly provided in the form of printed SLM, as well as creating its own

state of art electronic media production and broadcast and telecast facilities. The University has its own Electronic Media Production Centre (EMPC), Digital laboratories, Centre for Online Education and National Centre for Innovations in Distance Education and transmission channels; which gives it a great advantage over most other HEIs. Also being the National Coordinator for Diploma and Certificate programmes, it has the added advantage of using ICT for the development and hosting of MOOCs. Also the IGNOU teachers and academics are adept at using various media for teaching- learning, curriculum transaction, telecast and broadcast and evaluation purposes. The pandemic proved to be a catalyst in making a smooth shift from face-to-face counselling to online methods of tutoring and counselling by the IGNOU, both from its Headquarters (HQs) as well as from its Regional Centres.

During the academic year 2019-20 the University was offering 200 academic programmes through ODL mode: 35 postgraduate (PG) degrees; 25 undergraduate (UG) degrees; 66 diplomas; and 74 certificate programmes (IGNOU, 2019). Each academic programme has several courses and as mandated academic counselling sessions are conducted by the University during every academic session. Prior to onset of pandemic, a vast number of counselling sessions had been conducted in face to face mode at Learner Support Centres and through electronic and broadcast media. After the lockdown, the Schools of Studies, Regional Centres, Regional Services Division and other Academic Divisions of the University coordinated together to optimally use all the electronic media and digital resources available with them to continue to impart counselling to the distance learners. The faculty working at the Schools of Studies at the HQs; the academics at the Regional Centres and Divisions of the University especially, Electronic Media Production Centre, National Centre for Innovations in Distance Education and Centre for Online Education at the HQs and the academic counsellors attached to the Learner Support Centres, have been all along engaged in counselling the IGNOU learners mainly using digital media including web conferencing through various apps such as: Zoom, Cisco WebEx, Google Classroom, Google Meet, Google Hangouts, Skype, YouTube, Facebook Live, etc. Other interactive media used were email, WhatsApp, Telegram App and telephone. For online programmes the SWAYAM platform was used. The Web Enabled Academic Support (WEAS) introduced by the National Centre for Innovations

in Distance Education of the University on its portal provided the learners with academic support in the programmes they have enrolled in. The perusal of the week wise and programme level wise details of the counselling sessions conducted by the University by the Schools of Studies and Electronic Media Production Centre (EMPC) at the HQs and by the Regional Centres with the help of academic counsellors across the length and breadth of the country given in Table 1, reveal that IGNOU conducted 42536 sessions during the lockdown period of 118 days (23rd March 2020 to 17th July, 2020) using electronic media, multiple media and digital online media.. Of these 42536 sessions, 33194 sessions were conducted through the Regional Centres, while 9342 sessions through Headquarters (including Schools of Studies- 1709 sessions; Gyan Vani live-763 sessions; Gyan Darshan live-275 sessions; Gyan Darshan recorded- 4631 sessions; and GyanVani recorded- 1964 sessions) (Table 1).

The counselling data of the Regional Centres (RCs) further shows that of the 33194 sessions, maximum number of sessions i.e. 22903 (68.99 per cent) were organized in the North Zone comprising 14 Regional Centres, coinciding with the maximum number of learners enrolled in the North Zone RCs. The East Zone comprising 12 Regional Centres contributed 5821 counselling sessions (17.54 per cent). 2134, 1849 and 487 counselling sessions were organized at the South Zone (6.43 per cent) (11 RCs), West Zone (5.57 per cent) (10 RCs) and North East (1.47 per cent) (9 RCs), respectively (Table 2 and Fig 1).

The data given in tables 1 and 2 reveals that during the lockdown period, academic counselling was conducted for the various programmes on offer in the session 2019-20 at all levels, that is, post graduate and graduate degree programmes, as well as diploma, certificate and general programmes . There was extensive use of efficient and reliable Information and Communication Technology (ICT) tools by the University faculty at its HQs, and the academics at its Regional Centres who conducted as well as monitored the smooth conduct of counselling through academic counsellors attached to Learner Support Centres. Google Meet, Zoom, YouTube, Facebook Live and Cisco WebEx platforms were found to be the most preferred platforms for conducting online counselling sessions. Apart from these online apps, the electronic, broadcast and telecast media using GyanVani, GyanDarshan and SwayamPrabha channels also ensured effective counselling especially in the remote areas where internet could be a limitation. Besides

Table 1: Academic Counselling Conducted during COVID 19 Pandemic Era (23rd March, 2020-17th July, 2020)

Week	PG Degree	UG Degree	Diploma	Certificate	General	Total
1 & 2	20	5	21	31	18	95
3	11	25	22	30	12	100
4	7	13	22	33	13	88
5	13	12	20	20	28	93
6	15	14	20	19	34	102
7	17	13	30	24	23	107
8	41	33	48	38	20	180
9	26	30	13	15	8	92
10	52	40	52	31	14	189
11	13	7	19	18	33	90
12	19	7	20	19	30	95
13	11	5	22	15	21	74
14	9	4	17	11	19	60
15	19	15	38	26	12	110
16	18	12	44	30	11	115
17	18	12	44	30	15	119
Total Counselling sessions conducted by Schools of Studies	309	247	452	390	311	1709
GV Live Sessions through EMPC	133	154	109	124	243	763
GD Live sessions through EMPC	50	50	14	41	120	275
Total Online Counselling sessions at HQs	492	451	575	555	674	2747
Total Online Counselling sessions by RCs						33194
Recorded GV sessions through EMPC						1964
Recorded GD sessions through EMPC						4631
GRAND TOTAL						42536

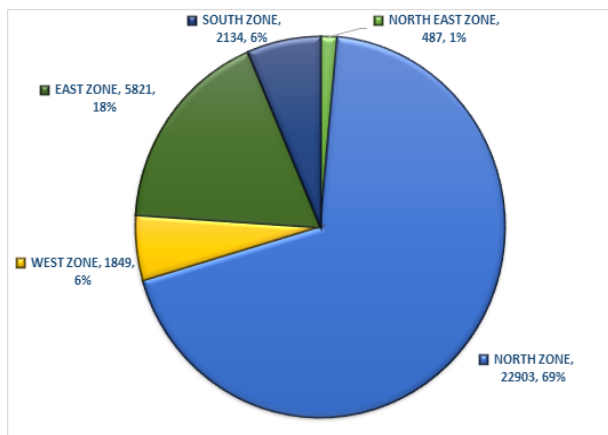
Source: IGNOU (2020)

these, other popular media like WhatsApp, Telegram App email, mobiles/ telephones were also used to reach the unreached. The University's own online platform, WEAS, proved to be an effective platform to provide academic support services to the distance learners at the click of a mouse. It was also observed that the number of counselling sessions increased across the country from 8th week of the lockdown period onwards, clearly indicating the ease of use of online media for imparting teaching learning.

The 35 PG degree programmes which include mainly general PG degree programmes: Master of Arts programmes (22); Master of Science (3); and Master of Commerce (4); and also programmes with components for skill and competency enhancement namely, Master

of Library and Information Sciences (1); Master of Social Work (2); Master of Business administration (2); and Master of Computer Applications (1). The majority of counseling sessions were conducted for PG degree programmes, majority of which (about 97 per cent) were conducted using web conferencing supplemented with other media such as WEAS, WhatsApp, email and telephone and Gyan Vani and Gyan Darshan. For MCA learners an online support guide was specially prepared by the School of Computer and Information Sciences who also used Twitter Handles and Online compilers and emulators for competency development in the learners. For programmes having components of internship/ dissertation/ project report, the university permitted the learners to submit only soft copies of

Fig 1: Total Online Counselling Sessions Conducted during 17 Weeks at IGNOU Regional Centres Distributed into Five Zonal Regions



access to video lectures, self-learning material, web resources, recorded web counselling sessions, and discussion forums. The learners were also facilitated through guidance in their project/ dissertation work as to how to start with project work, write the proposal, review of the proposals and guidance on improvement and data collection etc. and these tasks have been observed to be conducted through use of various online platforms.

Telecast and Broadcast through Gyan Darshan and Gyan Vani Channels

Over a period of 118 days, during the period of lockdown, the University telecasted 4906 sessions continuously 24X7 through Gyan Darshan channel in the broad areas of humanities, agriculture, sciences, social sciences, law, extension and development studies,

Table 3: Number of Sessions Telecast on Gyan Darshan

Name of the School/Broad Area	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Total
SOA	7	20	14	14	14	12	7	8	6	7	12	13	14	13	15	13	13	178
SOCE	7	13	14	14	14	13	14	9	11	13	8	7	7	7	10	13	13	166
SOCIS	12	8	14	10	8	11	14	19	12	14	5	7	5	10	11	14	09	167
SOE	12	6	0	12	14	10	2	4	6	7	7	2	15	14	14	2	12	133
SOEDS	12	7	0	0	8	11	4	0	12	14	5	0	0	12	12	0	0	86
SOET	0	0	8	10	0	0	4	14	4	0	0	12	6	3	1	8	10	80
SOFL	0	4	0	0	2	1	0	0	0	0	4	0	2	2	2	0	0	16
SOGDS	0	2	2	14	6	1	0	12	0	0	2	4	14	2	3	2	14	75
SOH	36	37	42	42	42	25	34	33	16	30	20	20	34	33	24	26	28	477
SOHS	12	12	14	14	14	9	13	11	11	13	12	12	15	15	14	13	17	200
SOITS	12	14	14	14	14	14	14	14	12	14	16	15	14	14	14	13	14	236
SOJNMS	0	4	14	14	6	2	10	14	1	0	8	14	15	6	2	14	13	135
SOL	12	11	12	12	8	11	14	2	12	14	10	7	1	11	12	12	0	140
SOMS	12	16	14	16	20	12	12	9	10	11	15	12	22	17	16	13	18	233
SOPVA	0	0	14	2	0	0	6	3	1	0	4	9	1	0	0	14	2	52
SOS	7	10	14	14	14	13	14	15	13	14	14	14	13	11	13	15	14	208
SOSS	14	20	35	28	28	26	20	22	17	19	21	21	22	24	24	22	20	336
SOSW	12	12	14	14	14	14	14	14	11	12	12	14	15	13	14	13	14	200
SOTHSSM	0	0	0	0	0	0	14	14	1	14	0	0	0	0	0	0	0	43
SOTST	12	8	14	14	10	11	10	0	13	14	10	12	12	12	12	14	12	180
STRIDE	12	8	6	0	8	11	0	0	12	0	10	2	0	10	12	6	0	87
SOVET	0	4	0	4	6	2	14	14	0	14	5	0	8	2	2	0	4	74
Adult Education	7	10	14	14	14	14	14	15	12	14	14	14	14	14	14	14	12	224
North East	7	10	14	14	14	14	9	8	12	14	14	15	14	13	14	14	12	198
General	12	12	14	14	14	14	28	28	16	14	7	8	17	23	27	26	24	291
Others	19	22	28	28	28	28	7	8	39	35	42	41	25	21	27	28	25	416
Total	236	270	329	332	320	131	292	290	254	301	111	275	305	302	309	309	300	4631

Source: IGNOU (2020)

education, performing and visual arts, journalism, engineering & technology, foreign languages, gender studies, health sciences, computer and information sciences, management studies and commerce, social work, distance education, vocational education and training, adult education, north eastern region and COVID 19 etc. The School-wise/Broad area wise number of sessions organized on Gyan Darshan since 23rd March, 2020 (when the University was closed due to lockdown) till 17th July, 2020 is given below in Table 3. A total of 275 sessions which were also telecasted on GyanDarshan during this period were live sessions (Table 4).

Gyan Vani (GV) FM Radio aims at enhancing and supplementing the teaching-learning process with each GV Station having a range about 60 Km, covering an entire city/town including the adjoining rural areas. As an ideal medium for addressing the local educational, developmental and socio-cultural requirements of the people of far off regions, this medium has been beneficial phenomenally. The flavor of the channel is by and large local and the medium is English, Hindi or language of the region. The overall content pertains to

Adult Education, Technical and Vocational Education, Higher Education, Distance Education and Extension Education etc. Interactive Radio Counseling (IRC) facility is being provided by Gyan Vani Stations to enable distance learners to interact with the faculty, academic counsellors. The programmes broadcast through each station include both pre-recorded and live content, but the live phone-in programmes are popular components of the network.

The Gyan Vani during the period of lockdown has been proactive in reaching out to a large audience substantially in disseminating information inter alia covering general awareness particularly on COVID-19 pandemic. A glance at the data given in tables 5 and 6 on Gyan Vani sessions depict the live and recorded sessions through Gyan Vani. During this period of lockdown, a total number of 2727 sessions have been broadcast out of which 763 were live IRC sessions, amounting to 27.47% of the total sessions. A level wise segregation of sessions show that 133 sessions (17.43%) were devoted to PG level programmes, 154 (20.18%) to UG level, 109 (14.28%) to Diploma and 124 (16.25%) to Certificate

Table 4: Details of Live Counselling Sessions Telecast through Gyan Darshan

Period	PG Degree	UG Degree	Diploma	Certificate	General	Total
Wk-1 : 23 March-28 March 2020	0	0	0	0	0	0
Wk-2: 29 March- 3 April 2020	0	0	0	0	0	0
Wk 3- 4th April- 10th April 2020	0	0	0	0	0	0
Wk-4: 11-April- 17 April 2020	0	0	0	0	0	0
Wk-5: 18 April -24 April 2020	4	2	1	4	9	20
Wk-6: 25 April -1 May 2020	5	7	2	4	10	28
Wk-7: 2 May -8 May 2020	2	7	0	1	14	24
Wk-8: 9 May -15 May 2020	2	9	2	5	6	24
Wk-9: 16 May -22 May 2020	5	5	1	5	12	28
Wk-10: 23 May -29 May 2020	5	5	1	6	11	28
Wk-11:30 May -5 June 2020	5	3	2	4	11	25
Wk-12:6 June -12 June 2020	5	3	0	6	12	26
Wk-13: 13June -19 June 2020	6	1	1	3	9	20
Wk-14: 20 June- 26 June 2020	3	5	1	3	8	20
Wk-15: 27 June- 3 July 2020	3	1	1	0	6	11
Wk-16: 4 July- 10 July 2020	3	1	1	0	6	11
Wk- 17: 11 July- 17 July 2020	2	1	1	0	6	10
GRAND TOTAL						275

Source: IGNOU (2020)

Table 5: Number of Interactive Radio Counselling Sessions Broadcast through GyanVani

Date	PG Degree	UG Degree	Diploma	Certificate	General	Total
Wk-1:23March-28 March 2020	2	2	2	4	7	17
Wk-2:29 March- 3 April 2020	2	4	6	4	11	27
Wk- 3: 4 April -10 April 2020	1	10	5	2	12	30
Wk-4: 11April -17 April 2020	3	11	8	6	13	41
Wk-5: 18 April -24 April 2020	5	10	6	7	19	47
Wk-6: 25 April -1 May 2020	5	12	5	12	24	58
Wk-7: 2 May -8 May 2020	1	14	4	6	29	54
Wk-8: 9 May -15 May 2020	9	11	11	11	14	56
Wk-9: 16 May -22 May 2020	17	15	3	6	16	57
Wk-10: 23 May -29 May 2020	15	9	8	14	15	61
Wk-11:30 May -5 June 2020	7	10	11	7	22	57
Wk-12:6 June -12 June 2020	14	8	7	11	18	58
Wk-13: 13June -19 June 2020	12	13	10	8	12	55
Wk-14: 20 June- 26 June 2020	16	6	6	7	11	46
Wk-15: 27 June- 3 July 2020	8	7	7	9	6	37
Wk-16: 4 July- 10 July 2020	7	12	4	7	5	35
Wk-17: 11 July- 17 July 2020	9	10	6	3	9	37
GRAND TOTAL	133	154	109	124	243	763

Source: IGNOU (2020)

Table 6: Number of Gyan Vani Sessions (Recorded) Broadcast

Name of the School/ Broad Area	Week 1 23-28 th March 2020	Week 2 29 th March – 3 rd April 2020	Week 3 4-10 th April 2020	Week 4 11-17 th April 2020	Week 5 18-24 th April 2020	Week 6 25 th April -1 st May 2020	Week 7 2-8 th May 2020	Week 8 9-15 th May 2020	Week 9 16-22 th May 2020	Week 10 23- 29 th May 2020	Week 11 30 th May -5 th June 2020	Week 12 6-12 th June 2020	Week 13 13-19 th June 2020	Week 14 20-26 th June 2020	Week 15 27 June- 3 July 2020	Week 16 4 th July- 10 th July	Week 17 11 th July- 17 th July	Total
	Number of Gyan Vani Sessions (Recorded)																	
Gyan Vani sessions	119	119	119	119	112	112	112	112	98	98	110	111	111	126	125	140	119	1964

Source: IGNOU (2020)

level programmes, while 243 (31.84%) sessions were devoted to general sessions. Rising to the occasion, IGNOU through GyanVani was a front runner in facilitating its learners about the topical issues facing the country. The live sessions through Interactive Radio Counselling on GyanVani focused on some of important, contemporary and burning issues facing the country like information relating to COVID-19 pandemic, awareness, challenges, change in India's neighbourhood policy, impact of foreign policy, exploring issues on social media as an alternative platform for learning and issues related to cyber threats, attacks, recognition of common electrical hazards and electrical protective devices, effect of earthquakes and how to manage its impact and avoiding economic loss and mental health of children and adolescents.

Conclusion

IGNOU's endeavour towards setting a new normal during the lockdown was visible in its proactive approach in reaching out to learners enrolled with the University and dispersed throughout the length and breadth of the country. IGNOU has been continuously providing academic support to its learners using electronic and digital media through online counselling sessions without any break to prevent the discontinuity and disruption in academic activities.

The University being an Open University has been using technology since its inception for teaching learning process. The closure of Learning Support Centres due to lockdown, does not appear to have any major impact on the functioning of the University,

rather IGNOU made efforts to convert challenges into opportunities. During lockdown period, when most of the educational institutions were closed, the University has moved several steps ahead for achieving the main objective of an Open University i.e. 'reaching the unreached' rigorously utilizing all the media options especially Online Counselling sessions, and Gyan Darsan, GyanVani and Swayam Prabha channels for delivering the quality content and student support services to the learners for completing their study without any impediment.

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HANDBOOK ON ENGINEERING EDUCATION (2016)

The 12th Edition of “**Handbook on Engineering Education**” is primarily meant for students seeking admission to Engineering/Technology/Architecture programmes at the undergraduate and postgraduate levels. It contains State-wise information on 1050 colleges/institutes/ university departments in the country. The information of Institutions in the Handbook includes: Year of establishment of Institute/ Department/ name of its Principal/ Director; probable date of Notification/last date of application; Number of seats available in each Engineering/ Technology branch; seats for NRIs/Foreign students; Eligibility; Application procedure; State-wise Common Entrance Test Rules for B.E/B.Tech/B.Arch courses; Fees; Hostel facilities, etc. Also given is ‘Faculty strength’, commencement of Academic Session, and System of Examination. Brief details of Post-graduate courses are also included.

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Developing COVID-Proof Employability among Graduates

Soumitra Chatterjee*

Concept, Context and Rationale of COVID-Proof Employability

Post Lockdown in the new normal the employment market will be characterised with a number of changes—a lot of companies will either stop hiring or reduce their hiring budgets drastically, many sectors will plan to continue with existing workforce to cut costs. Many so called bulk recruiters will shed the Bulk. Many recruiters who had come to the campus and issued offer letters to students may not be in a position to honour their commitments. Also the nature of employability requirement will go through a paradigm shift. The graduates will now be expected to come as more *Ready Made* for the job—the academic degree will gradually be less important and be substituted by individual *JOB Fitment Quotient*. How *Job Fit* are you for my organisation requirement on a 0 to 10 point scale. This will determine selection. The *COVID Proof Graduate* will need to demonstrate a wide range of behavioural competencies like crisis management, response agility, critical thinking, decision making, persuasive skills, assertive communication, thriving in challenges, team management, etc. He will be required to be entrepreneurial from day one, very focused on results and recovery of Return on Investment (ROI). On the Technology front he will be required to demonstrate a certain level of technology common sense on Industry 4.0 technologies like Internet of Things (IOT), Machine learning, Artificial Intelligence, Autonomous Robots, Cyber security, Data science, etc. The new graduate may also require to acquire skills art Video Editing, Graphic Design, E-commerce, Social Media Management, Foreign Languages, etc as these skills will have a higher requirement Post COVID. A package of all of the above is what we may call *COVID Proof Employability*.

The Challenges Facing Institutions Today

Most universities are not agile with times and hence the curriculum remains stagnant. Because of

the backdated curriculum, teaching learning is also backdated. As a result most graduates procuring a degree has very little relevance with what they have learnt and what the marketplace requires. During Pre Lock-down to some extent if this was tolerated by employers Post Lock-down they will not accept this. Also institutional owners are more profit oriented but unlike their corporate counterparts are not inclined to upgrade Quality—they would not have much budget on Faculty Development, they are not prepared to go for accreditation till they are pushed to the wall. There is hardly any long term vision on their part, Good Governance is a far away dream, aspiration to excel is missing and most institutions therefore are nurseries of Mediocrity. The faculty have no idea as to what the end user, that is, the Industry wants—most teachers are faculty by compulsion not by passion. Hence the teaching learning, delivery, assessment, etc is mostly traditional. Compliance to All India Council for Technical Education (AICTE) and Affiliating University norms are the goals. Majority of the faculty believe that they are only responsible to teach, and procuring Placement is the job of the Placement Department. This is how most institutions are operating today. Orientation to research, having a stimulating institute industry partnership, developing entrepreneurship among students is not happening as they should. Unless this Changes, End is Imminent.

Time for the Institutional Governors to Wake Up

It is time for the institutional governors to wake up from their slumber. If they do not change now students will remain unemployed. If they remain unemployed for long there will be huge unrest, with unrest there will be Bad Press, with social media bad news spreads like fire today. And admissions will seriously suffer. When admissions suffer institutional earnings will plummet—with such a situation all jobs will be at stake and ultimately the institution will not get their automatic regulatory renewal and be forced to close down. Interestingly, if a Cost Benefit Analysis is made that which is a smarter decision—to get accredited, upgrade quality and establish the institution firmly or gradually close down. The first

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decision will come out to be many times financially profitable.

Eight Point Transformational Road Map

1. The institutions must commit to procure accreditation
2. They must chalk out a detailed plan as to how to develop COVID-Poof Employability among students
3. They must chalk out a detailed roadmap with respect to developing the faculty on the following areas: Teaching Pedagogy, Attitude, Communication, Leadership & Managerial skills/ How to write papers/ How to procure consultancy projects/ how to develop a stimulating Industry Institute Partnership

4. Set-up a roadmap of a vibrant Industry—Institute Partnership
5. Set-up an Internal Revenue Generation Plan
6. Set-up a strong Institutional Human Resource (HR) with clear job Dispri (JD), Key Result Area (KRA), kep professional (KPI) and Appraisal Mechanism for all.
7. Train the Institutional Heads on Leadership and Good Governance
8. Set up a completely performance based culture based on strong appraisal backed by reward and recognition schemes and complete apathy to non performance.

□

HANDBOOK ON MANAGEMENT EDUCATION 2012

The 10th edition of “**Handbook on Management Education**” contains State-wise information on 509 institutions in 178 universities conducting management programmes. The information of Institutions in the Handbook includes: Year of establishment of Department/Institute; Name of its Head/Director; probable date of Notification/last date for application; Number of seats available; Seats for NRIs/Foreign students; Eligibility; Application procedure; details of Common Entrance Test; Fees; Hostel Facilities, etc. Also given are ‘Faculty Strength’, commencement of academic session and System of Examination. Information on 34 non-university institutions, the programmes of which have been recognized by AIU and list of institutions conducting PGDM recognized by AIU as equivalent to MBA.

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Taking Design Thinking to Education

Lissy Koshi *

An overall revamping in education is the need of the hour. We have all grown up in an education system that has helped us become who we are, what we value, and the way we understand how learning happens. It's the water we swam in for many years of our lives, and it's hard to realize that there's any other way it could be. In fact, everything about our schools has been designed. And it can, and should, be re-designed to answer the evolving needs of our times. Design Thinking is a mindset and approach to learning, collaboration, and problem solving. In practice, the design process is a structured framework for identifying challenges, gathering information, generating potential solutions, refining ideas, and testing solutions. The focus is on becoming aware of peoples' needs and developing insights and coming up with suggestions about how to make changes that will have an impact on peoples' experiences.

Talk to any educator, parent, or policy maker and you will inevitably hear about the many problems that exist in education. Attempts are being made by people working across the country to find new solutions for our schools. As Einstein famously said, "We can't solve our problems by using the same kind of thinking we used when we created them." We tend to think first about the needs of the system and create solutions from there. But what if we looked first to the needs of people, and then designed ways the system could meet its goals by serving these needs? This is the heart of how design thinking gets to innovative solutions.

Design Thinking is a mindset and approach to learning, collaboration, and problem solving. In practice, the design process is a structured framework for identifying challenges, gathering information, generating potential solutions, refining ideas, and testing solutions. Design Thinking for Educators is a creative process that helps to design meaningful solutions in the field of education. It attempts to bring dynamic cultural shifts. This response includes new pedagogies that are evidenced by new standards, assessments, tools and learning environments.

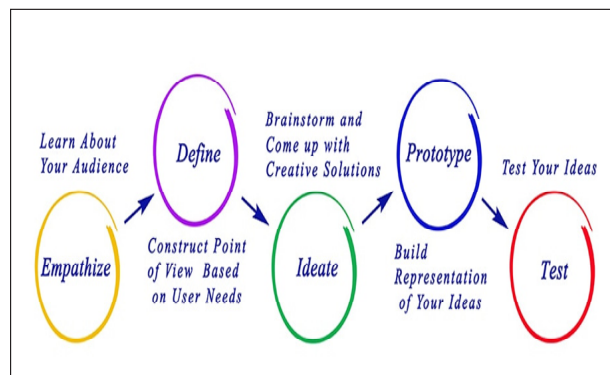
The rationale behind design thinking in

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education centers on a pedagogy aimed at creating and facilitating future innovators and breakthrough thinkers. It is about creating creative and collaborative workflows engineered to tackle big projects and prototyping to discover new solutions. Design thinking aims to be creative, develop something that is meaningful, work within the constraints and use technology that is new and different. It must promote the level of engagement and ownership of learning that enables one to achieve a level of success. Design thinking curriculum will have a great deal to offer for the educators and systems trying to incorporate more project-based approaches that emphasize problem-solving, relevance and collaboration.

The five major stages of design thinking are Empathize, Define (the problem), Ideate, Prototype, and Test (Fig-1).

Fig.1 Design Thinking Process



Empathize

This involves consulting experts to find out more about the area of concern through observing, engaging and empathizing with people to understand their experiences and motivations, as well as immersing yourself in the physical environment so you can gain a deeper personal understanding of the issues involved.

Define

After empathizing with the users, you need to synthesize your observations. This defines the problem. A clear definition of the problem statement guides to kick start the ideation process in the right direction. So, one can focus on the specific needs

that one has uncovered. The define stage is relevant here as it also creates a positivity that allows one to spark off ideas in the ideation stage.

Ideate

Ideating is a critical component of design thinking. Ideating is all about brainstorming, creativity, fun and coming up with constructive ideas. In this step we conceive the problem and come out with ideas to solve the issue.

Prototype

Prototyping is a rough and rapid portion of the design process. A prototype is a sketch, a model or a way to convey an idea quickly. Prototyping offers designers the opportunity to bring their ideas to life, test the practicability of the current design, and to potentially investigate how a sample of users think and feel about a product. Prototyping allows designers to provide stakeholders with testable models before setting up a particular design.

Test

Testing is part of an iterative process that provides feedback. The purpose of testing is to learn what works and what doesn't, and then iterate. The prototypes have to be trial tested to check its efficiency and practicability. It is usually in the final testing phase that we use prototypes, to reveal new solutions and to test the success of the implemented solutions. This in turn, helps to build a robust understanding of the probable problems the users may face.

Design Thinking is an approach to learning that focuses on developing students' creative confidence. Teachers and students engage in hands-on design challenges that focus on developing empathy, promoting a bias toward action, encouraging ideation, developing metacognitive awareness and fostering active problem solving. Using one's imagination is central throughout the process.

Classrooms and schools across the world are facing design challenges, from teacher feedback systems to daily schedules. Wherever they fall on the spectrum of scale – the challenges that educators are confronted with are real, complex, and varied. And as

such, they require new perspectives, new tools, and new approaches. Design Thinking is one of them. It's a structured approach to generating and developing ideas to find new answers that make a real difference.

Without even realizing it, we get based on bias what we create in education to the needs of the system. We start with policy, regulations, and the outcomes we desire, and assume that those conditions dictate the way things should happen in education. Often it is that very thinking that gets in the way of creating experiences that engage today's youth. What if we took a human-centered approach to the design of our schools, tools and systems. People, and our understanding of them, are the heart of innovation. Every parent, teacher, administrator and policy-maker has been aligned on one thing: everyone wants what's best for our children.

Designing with an understanding of people's needs and desires is what design thinking is all about. This doesn't mean we compromise the system's desired outcomes. Rather, the design process takes the aspirations of a system and seeks ways we can achieve these outcomes through experiences that people actually want. If we really want to innovate in education, we must let go of our assumptions about how schools work and open up to what really understanding our students can teach us about what we should be creating.

Conclusion

Design thinking is a process. It is a way to solve problems. Many a times it demands thinking out of the box. The good part is that design thinking looks at how things work in a holistic perspective. In order to get a big picture of the issue, we talk to the end users or the beneficiaries so that we understand the real problem and think creatively, explore all possible solutions, select the best choice and execute it.

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Let's Transform India into a Knowledge Hub*

Ram Nath Kovind, Hon'ble President of India delivered the Inaugural Address during the Inaugural Session of the Virtual Conference of Governors on National Education Policy–2020 at Rashtrapati Bhavan, New Delhi on 7th September, 2020. He said, “Teaching and learning should aim to develop exploration, problem solving, spirit of enquiry and creativity in the students and instil in them the ability and the new approach to use new information as required. They should be given education that develops character building, ethics, compassion and sensitivity and also makes them employable. Through a complete overhaul of the higher education system, this policy seeks to provide education to the youth according to their aspirations and needs.” Excerpts

This Education Policy has been formulated after an unprecedented and extensive process of consultations. I have been told that in formulating this policy, more than two lakh suggestions received from two and a half lakh gram panchayats, more than twelve and a half thousand local bodies and about 675 districts have been taken into consideration. Due to such a nationwide and extensive participation, this Education Policy truly embodies national expectations and solutions. This Education Policy will be able to take the countrymen, especially the youth forward in accordance with the needs and aspirations of the 21st century. It is not only a policy document, but a reflection of the aspirations of the learners and citizens of India.

I thank the Union Minister of Education, Minister of State for Education and all officers of the Ministry and people of other institutions for successfully completing the elaborate and complex process of formulating and finalising the Education Policy. Dr. Kasturirangan, a recipient of Padma Vibhushan, and all the members of his team, who gave the present form to this education policy, deserve special appreciation. I congratulate the Prime Minister for his visionary leadership and inspiring role in shaping the historical document of ‘National Education Policy 2020’.

After the announcement of the National Education Policy, discussions have started at various levels and areas. This policy has been welcomed by academics, parents, students and general public. It is being said that if changes are effectively brought about in accordance with this policy, India will emerge as an education superpower.

Governors will have an important role in the implementation of this Education Policy. At present, more than two and a half crore students get education in more than 400 state universities and more than

40,000 colleges affiliated to them. State universities have a special responsibility from this point of view. Mostly, Governors are Chancellors of these universities. Governors need to contribute to the implementation of the Education Policy by establishing dialogue and coordination with universities, colleges, institutions and other stakeholders.

I am told that some states have already started consultation in the direction of implementation of the Education Policy through virtual conferences etc. All such efforts are commendable.

Education is the most effective means of social justice and personal advancement. There is no better investment than that in education to improve the future of society. From the 1968 Education Policy to the current one, it has been consistently clarified that the central and state governments should jointly aim to invest 6 percent of GDP in the field of public education. The ‘National Education Policy–2020’ recommends to reach this goal at the earliest.

Teaching and learning should aim to develop exploration, problem solving, spirit of enquiry and creativity in the students and instil in them the ability and the new approach to use new information as required. They should be given education that develops character building, ethics, compassion and sensitivity and also makes them employable. Through a complete overhaul of the higher education system, this policy seeks to provide education to the youth according to their aspirations and needs.

The Education Policy clearly states that a robust public education system is the basis of a vibrant democratic society. Therefore, strengthening public educational institutions is very important. It has been emphasized in the National Education Policy that we have to develop a modern education system based on Indian values. At the same time, efforts have to be made to provide opportunities for high quality education to everyone and to create a vibrant and equitable knowledge society. One of the

* The Speech has been taken from the website: <https://presidentofindia.nic.in/speeches.htm>

aims of this education system is to generate awareness and respect among students for Fundamental Rights, Duties and Constitutional values, patriotism and their responsibilities in a changing world. The importance of public purpose and ethics has been emphasized in all areas of higher education, especially in those which groom professionals.

With the help of the Education Policy, we have to nurture students who are imbued with national pride as well as a sense of global well-being and can truly become global citizens.

Through this policy, the nature of India's education system in the digital and globalized world has been clearly enunciated. Special emphasis has been laid on inclusion of people from socially and economically disadvantaged groups or SEDGs into the education system. The highest priority of this education system will be to provide foundational literacy and numeracy to all children at primary school level by the year 2025. The structure of higher education can stand only on this foundation. Teachers will have a central role in bringing about the fundamental changes being made in the education system. It has been made clear in this Education Policy that the most promising people should be selected for the teaching profession. Their decent livelihood, dignity and autonomy should be ensured.

To give a strong foundation to school education, it is targeted to create by the next year i.e. 2021, a new and comprehensive curriculum for teachers' education based on this Education Policy. Teachers' education is a part of higher education. Therefore, at the State level, all of you have to achieve the very important goals related to teachers' education. In this context, there is a provision for starting sound, multi-disciplinary and integrated teachers' education programs. By the year 2030, only high-quality institutions will remain functional in this area.

In view of the global scenario, a new ambitious approach has been adopted in the area of Vocational Education. According to the 12th Five-Year Plan estimates, less than 5 percent of the workforce in India received formal vocational education. This number was 52 percent in the United States, 75 percent in Germany, and 96 percent in South Korea. Given the need to accelerate the spread of vocational education in India, it has been decided that at least 50 percent of the students in the school and higher education systems will be provided exposure to vocational education by the year 2025. This will help realise true potential of our demographic dividend.

The '*Lok-Vidya*' evolved in the Indian tradition will be linked to vocational education by higher education institutions. It has been made clear in this policy that vocational education will be considered as a part of mainstream education and such education will be given equal status. This will make our children and youth more skilled and also generate among them respect for the dignity of labour.

The Education Policy envisions a higher education system that derives inspiration from our rich tradition and is also modern and futuristic in outlook. From the view point of pedagogy and child psychology, it has been acknowledged that the mother tongue should be the medium of primary education. In line with this approach, the Education Policy adopts the spirit of the three-language formula. The Policy puts emphasis on the Indian languages, arts and culture. This will develop creative potential in the students and further strengthen the Indian languages. It will be helpful in preserving the unity and integrity of our country characterised by great linguistic diversity.

The promotion of Indian languages, arts and culture has been given special importance in the National Education Policy because they are important for India's identity as well as economy. One hundred tourist places will be identified to introduce to the students India's cultural richness and diversity. Students will be taken to those places on study tours by the institutions so that they understand the multifaceted civilization, culture, knowledge-systems, science and literature of our country. All of you can get prepared good study material about such places in your respective states. You can also give necessary directions for the development of tourist facilities at such places.

Mahatma Gandhi, the Father of the Nation, was in favour of scientific and technical education. He believed that experts should be connected with the common people and the Indian languages. Many of his important thoughts on education plan are reflected in this Education Policy. Babu had said, "Under my scheme there will be more and better libraries, more and better laboratories, more and better research institutes. Under it we should have an army of chemists, engineers and other experts who will be real servants of the nation and answer the varied and growing requirements of a people who are becoming increasingly conscious of their rights and wants. And all these experts will speak not a foreign language but the language of the people. The knowledge gained by them will be the common property of the people.

There will be truly original work instead of mere imitation.”

Drawing inspiration from ancient universities like Taxila, Nalanda, Vallabhi and Vikramashila, it has been recommended to establish large and multi-disciplinary universities and higher education institutions or clusters. Multi-disciplinary Education and Research Universities i.e. ‘MERU’ will be set up with the aim of achieving world-class quality education. This will enable the development of qualified, versatile and creative youth in every part of the country.

Such efforts will increase the number of international students in India. India will emerge as a global study destination where excellent education will be available at affordable cost. High performing Indian universities will be encouraged to set up campuses in other countries. Also, the world’s top universities will be allowed to come to India and impart education.

It is targeted to set up at least one large multi-disciplinary higher education institution in or around each district by 2030 to provide higher education in underserved regions. For this, several steps will have to be taken at the State level. Good higher education institutions are to be set up in Aspirational Districts and Special Education Zones. This will be an important step in the interest of socially and economically disadvantaged groups. An effort will be made to make education accessible to all by leveraging technology for online and digital education.

Besides access, opportunity and quality, accountability has also been fixed in the Education Policy. This Policy also recommends giving greater autonomy to educational institutions and faculty.

It has been observed that the level of investment in research and innovation is 2.8 per cent of GDP in the US, 4.2 per cent in South Korea and 4.3 per cent in Israel as compared to only 0.7 percent in India. To give impetus to a large and vibrant economy like India, it is necessary to encourage knowledge-creation and research. The Central and State governments will have to increase the percentage of investment in research and innovation.

A National Research Foundation will be constituted to guide quality academic research in all fields. To promote a research-culture, all universities and higher education institutions will work with the

National Research Foundation.

The use of technology and its integration will accelerate reforms in the learning process and lead to better results. For this, the National Educational Technology Forum – NETF will be established. NETF will provide consultation to the state government agencies also. All aspects of the education system will be made simpler and more accessible with the help of technology. Research and technology-use will be encouraged in the context of Artificial Intelligence so that effective changes may be carried out in areas such as healthcare, agriculture and climate-change.

The success of this Education Policy will depend on the effective contribution of both the Centre and the States. Education is enumerated as a subject in the concurrent list of the Constitution. Therefore, it requires joint and coordinated action by the Centre and the States.

There are inter-state variations on the various parameters related to education. States have to adopt the measures recommended in the National Education Policy according to their local conditions, characteristics and expectations. In order to effectively implement this Education Policy, the Central and State governments will have to work relentlessly in coordination with all the stakeholders. In order to ensure timely implementation of the recommendations of this Policy in the sphere of higher education, it is necessary to appoint highly qualified and deserving persons to fill the vacancies of the Vice Chancellors and Faculty in the universities.

I spoke to all the Governors and Lt. Governors a few days ago in the context of the discussion on National Education Policy. I was very happy to observe their eagerness, enthusiasm and preparation. All the Governors have held meetings with their Education Ministers and the Vice Chancellors of the State Universities and have come prepared to discuss the National Education Policy today. Integrating the findings of all such discussions will lead to a holistic view on issues related to the implementation of this Education Policy.

I am sure that by contributing to the implementation of the National Education Policy, all of you will be playing an important role in transforming India into a ‘knowledge- hub.’

Thank you, Jai Hind!

BOOK REVIEW

A Rare Piece of Work

Kanwalpreet Kaur*

Roy, Sumangal and Dutta, Jayanti (2019), Understanding Public Art in India: With Documentation of Public Art in Chandigarh, Punjab University, Chandigarh, Publication Bureau, Pages 186, Price Rs. 400/-

Public art is any work of art that is placed in a public space and is accessible to all. It includes all types of sculptures and statues of martyrs, political leaders, kings and great men whom the society wants to immortalize and also the artistic creations celebrating themes which are thought to be significant for the community.

Sumangal Roy and Jayanti Dutta, the authors have explored the domain of public art in India in general and that of Chandigarh in specific, in this book. The authors started noticing public art works in and around their city, as well as in other places whenever they travelled, first as an interesting hobby and then as a significant academic area with possibilities of serious research. They found public art to be critical to the understanding of not only the aesthetic aspects of our culture but also myriad dimensions of the society. For a democratic country like ours with multi layered cultures, traditions, perspectives and insights, creating public art can be a challenge and an effective strategy to strengthen democratic values. This interest spurred the authors to consolidate their basic understanding of public art into this simple volume.

The book provides a brief glimpse into the history, development, characteristics and functions of public art. Public art documents history, humanizes landscapes, civilizes communities, acts as a mediator and can be a tool of social inclusion. A public art should reflect the aspirations and angst of the communities and there should be an active participation of the common people at all stages of execution of public art, right from its inception to installation- only then it can be declared 'public' art in the true sense of the word. In several countries around the world a rule called, 'percent-for-art' is followed, whereby for every construction in the city, one percent budget has to be earmarked for the creation, execution and maintenance of art works in the premises. This has led to enhancement in the aesthetic ambience of several urban spaces which not only adds a warm and welcoming touch to the intimidating, drab

and boring city atmosphere but also brings revenue in the form of more footfalls around the public art, making the address glamorous, hip and fashionable. In our country public art is still authoritative, autocratic and carries the stamp of artistic arrogance. It has a long way to go before it becomes the true mirror of public participation. Perhaps the idols of BR Ambedkar in underprivileged areas all over the country, funded by community members, built by local artists are best examples of public art in our country.

The book is divided into six chapters and explains the concept, history, significance, functions and execution of public art starting from the broad and generic discussions and leading on to the more specific areas of controversies in public art, technical process of installation of a work of art in public places and its integration in the public psyche. An overview of contemporary public art in some important Indian cities has been given along with specific and detailed documentation of fifty-one art works dotting the city of Chandigarh.

The book as declared by the authors is primarily directed towards students of fine arts, however, it can easily cater to researchers in sociology, political science, history and other social sciences who are interested in getting a preliminary and basic appreciation of public art and to get a glimpse of how social forces commingle with the creative ones to concretize into tangible forms of public art. The language of the book is simple; the approach is non-convoluted and the style is lucid. Ninety-one colour projections in the book substantiate the writings and help the reader to form independent opinions, appreciation or disagreements about the quality of the art works and thus corroborate the authors' commentary. The pocket friendly price of the book is suitable for the target readership of students. Very few books have been written on the subject of fine arts in India, especially that of the modern era by Indian academicians; this book is a welcome addition to the few titles available in the discipline. An advanced volume on the subject, with deeply researched insights on different facets of public art and on a still broader canvas can certainly follow this book. □

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National Conference on Contemporary Issues in Textile Manufacturing Process

A two-day National Conference, TEXCON-2020 on the theme 'Contemporary Issues in Textile Manufacturing Process from Fiber to Garment' was organised by Shri Vaishnav Institute of Textile Technology, Shri Vaishnav Vidhyapeeth Vishwavidyalaya, Indore, recently. TEXCON-2020 was aimed at bringing together the entire extended textile fraternity on one platform for the intellectual interface of varied domains. Each delegate has shared their experiences and discussed the practical challenges and solutions that can be adopted. The inaugural ceremony commenced with the lightning of the lamp by a group of dignitaries, Chief Guest, Dr. R L Raina, Vice Chancellor, JK Lakshmipat University Jaipur, Guest of Honor, Shri Kumar Purushottam (IAS), Executive Director, MPIDC, Indore. Guest of Honor, Shri Nitinji Seth COO Arvind Ltd. Knits Division, Ahmadabad, Shri Purushottamdas Pasari, Chancellor, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Dr. Upinder Dhar, Vice Chancellor, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Dr. RK Datta, Director, Shri Vaishnav Institute of Textile Technology, Shri Kamalnarayan Bhuradiya, Honorary Secretary, Shri Vaishnav Vidyapeeth Trust.

Dr. R K Datta briefed about Texcon-2020. Dr. Upinder Dhar formally welcomed all the dignitaries and the participants from various parts of the country. He mentioned that Indian textile industry, currently estimated at around US \$150 billion, is expected to reach US \$ 300 billion by 2025. It accounts for 13 per cent of industrial production and contributes 2.3 per cent to the GDP of the country. The textile and apparel industry is the second largest employer in the country providing employment to 45 million people. He highlighted the need and requirement of innovation in the current scenario. Shri Purushottamdasji Pasari congratulated the organizing committee of TEXCON - 2020 that has provided a platform to the academia and industry to present their research work and helped everybody to gain the knowledge.

Shri Kumar Purushottam (IAS) emphasized on various government policies and futuristic views for textiles and garment industries. He urged to young textile engineers to improve the productivity

of textile. Shri Nitin Seth shared his experience and discussed on cost competitiveness of Indian garment in this fast fashion world. Chief Guest, Dr. RL Raina also congratulated everybody for organizing the event and appreciated the various research works for the benefit of the society. He emphasized on various projects related to sericulture of silk, handlooms products and also talks about the role of academic institutes and students for the development of overall textile Industry. Finally, Shri Kamalnarayan Bhuradiya proposed the vote of thanks.

Dr. J Hayavadana, Professor, University College of Technology, Osmania University, Hyderabad presented a research paper on Challenges for Ikat Dyeing in Nalgonda District of Telangana State. Dr. Ashwini K Agrawal, Professor and Head, Department of Textile Technology, IIT Delhi discussed about the development of Nano Engineered Janus structure for highly functional textile material. Mr. Kunal Toshwani, Executive Manager, Raymond Limited talked on various issues in the manufacturing of garments looking to the perspective end-uses of the customer. The Session chair was Dr. RK Datta, Director, SVITT.

Dr. Ashok Athayle, Professor, Department of Fibers and Textile Processing Technology, Institute of Chemical Technology Mumbai presented a paper on 'Renewable Polyester' and discussed about the PLA. Dr. Gautam Bose, Former Principal Scientist, ICAR, Kolkata, described on various natural growing in the vast unexplored of natural fibers in India. Mr. VKAK Pandey, AGM, Voltas Textile Machinery Division discussed on 'Innovation and Value Creation' of textile spinning machines to push the industry 4.0 revolution. The Session chair was Dr. Santosh Dhar Dean, FDSR, SVVV. Thereafter, two concurrent sessions were conducted in which eleven technical papers were presented.

Dr. PA Khatwani, Professor, Sarvajani College of Engineering and Technology, Surat, presented a paper on 'Nonwoven Fabrics: Gateway to the Broad Market of Innovations' and discussed various issues on nonwoven fabric. Dr. B Basu, Consultant, Mumbai presented a paper on crisis in Bhiwandi power loom sector with their problem and much needed solutions. The Session Chair was Dr. UC Choubey, Emeritus Professor, SVITS.

Dr. Vinay Kumar Midha, Professor, Department of Textile Technology, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar presented paper on the 'Dynamic of Lock Stitch Sewing Process with the Effect of Tension Variation of Sewing Thread on the Properties of Garments'. Prof. Jomichan Pattathil, Professor, NIFT, Mumbai discussed about the Adoption of CAD in Indian garment manufacturing sector to assess the stakeholder perception. Dr. R Ramachandran, Associate Professor, Department of Fashion Technology, PSG College of Technology, Coimbatore presented a paper on '3D Printing Technology' and discussed about the methods of applications of that. The Session Chair was Dr. Shirish Jain, Professor and Exam Controller, SVVV.

Mr. R N Yadav, Principal Consultant, Aaryan Associates delivered a lecture on the 'Role of Job Restructuring, Discipline and Productivity for the Indian Textile Industry'. Dr. R N Joshi, Associate Professor, SGGSIET, Nanded delivered lecture online through Google Duo. He spoke on a case study to the producers of starting and shutdown of melt spinning line of polyester plant. The Session Chair was Dr. P A Khatwani, Professor, Sarvajanik College of Engineering and Technology, Surat. Thereafter, two concurrent sessions were conducted, in which seven technical papers were presented.

The Chief Guest of the Valedictory Ceremony was Mr. Rajeev Sharma (IAS), Commissioner, Directorate of Handloom and Handicraft and Managing Director, Sant Ravidas Madhya Pradesh Hastashilp evam Hathkargha Vikas Nigam, Bhopal. In Valedictory ceremony, Dr. R K Datta, Chairman, Texcon-2020 presented the conference report. Dr. Upinder Dhar, Vice Chancellor said that the textile sector is always considered as an important sector of the society and now it is time for the value addition and needs to upgrade process and technology and innovates some new products. The brochure of TEXCON-2021 was also released. Chief Guest, Mr. Rajeev Sharma (IAS) said that the Indian fabric is always considering a prime market for the foreign textile business. India covered 20 per cent business in textile in past. This was because of the specialty of the handlooms and handicrafts. Now, the time is to restructure of the handloom sector. The Maheshwari Sarees is the important product of the Madhya Pradesh. This was developed by Devi Ahilyabai Holkar. He also encouraged the students to work hard and give new technological ray on the development of Handloom and Handicrafts. He also shared the

hope for the recruitment of fresh technocrats in this sector in future. Prof. Ajay Shankar Joshi, Organizing Secretary proposed the vote of thanks.

E-Global Emerging Innovations Summit- 2020

A two-day E-Global Emerging Innovations Summit-2020 is being organised by Lovely Professional University, Phagwara, Punjab during October 30-31, 2020. The Research Scholars, Educators, Industry Professionals, Practitioners (Brand Specialists, Head of Marketing, Stakeholders, Innovators, Faculty, Government Officials, Technology Experts, and UG/PG Students may participate in the event. The event provides a chance for academic and industry professionals to discuss recent progress in the area of Global Emerging Innovation Summit-2020. The aim of the event is to provide opportunities for different research area delegates to exchange new ideas and application experiences face to face, to establish business/research relations to find global partners for future collaboration in the areas of Innovations in Engineering and Technology.

The application of knowledge to meet practical requirements is termed as 'Innovation' whereas the application of Biological Sciences, Computer Science, Agriculture, Mechanical, Aerospace, Electronics, Healthcare, Management, Electrical and Civil to make the society beneficial with new ideas. In the recent scenario, interrelated fields of research where several academicians, technologists, and independent agencies are working together for the benefit of humankind. The Global Emerging Innovation Summit builds a bridge between technologist and environmentalist, academics and R&D institutions, private and government organization, social visionaries and experts from all strata of the society. The Tracks of the event are:

- *Engineering and Technology*
- *Basic and Applied Sciences*

For further details, contact Organising Secretary, Lovely Professional University, G.T. Road, Phagwara-144411 (Punjab), Mobile: 09837043685, E-mail: geis.innovation@lpu.co.in. For updates, log on to: www.lpu.in.

International Conference on Himalayan Cryosphere

A five-day International Conference on 'Himalayan Cryosphere' is being organised by Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru during October 19-23, 2020. Himalayan cryosphere due to large concentration of seasonal snow

and glacier provide sustainable source of water for people living in the mountain and in the surrounding plains. However, due to climate change Himalayan region is experiencing higher warming than global mean, causing rapid loss in glacier mass and early melt of seasonal snow, influencing water availability. In addition, retreating glaciers will also create new hazards like flash flood from glacier lakes, affecting safety and livelihood of people living in the mountains. The Scientific themes and Session are:

- Cryosphere Processes, Dynamics and Climate Change.
- Cryosphere: Risk Assessment and Mitigation.
- Cryosphere Research and Policy Making.

For further details, contact Convenor, Dr. Anil V Kulkarni, Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru- 560012 (Karnataka), E-mail: anilkulkarni@iisc.ac.in. For updates, log on to: www.iisc.ac.in

AIU NEWS

ANVESHAN - Student Research Convention (South Zone)

The Association of Indian Universities, New Delhi in collaboration with Bharathidasan University, Tiruchirappalli, Tamil Nadu organized *Anveshan*: Student Research Convention of South Zone during January 21–22, 2020 at Bharathidasan University, Tiruchirappalli. Dr Amarendra Pani, Joint Director & Head, Research Division, Association of Indian Universities was the Chief Convenor of the event which was coordinated by Dr Usha Rai Negi, Assistant Director, Research, AIU, New Delhi. Coordinator, Muthusamy S, Director, Research, Bharathidasan University, Tiruchirappalli; Coordinators, Muruganandam, P and Srinivasan, K, Bharathidasan University, Tiruchirappalli has successfully conducted the South Zone *Anveshan*: Students Research Convention at Bharathidasan University, Tiruchirappalli, Tamil Nadu with the support of Association of Indian Universities, New Delhi. The universities and colleges including 145 Universities/Institutes of southern states namely; Tamil Nadu, Kerala, Puducherry, Andhra Pradesh and Karnataka, full-time students of UG, PG, MPhil and Ph.D. program of agriculture, engineering, health, science and social science subjects are invited to participate to present their research projects in the form of poster, model and oral presentations. About 101 project abstracts in Agriculture – 17; Basic Sciences – 26; Engineering – 12; Health Sciences – 36; Social Sciences & Humanities – 10 having a total of 185 students were successfully registered from all southern states.

As per program Schedule, the programme started with registration at 8.00 am on January 21, 2020. The ceremonial dais was honored by the eminent presence of Dr. P Manisankar, Vice Chancellor; The

Chief Guest Dr. S Sivasubramanian, Former Vice Chancellor, Bharathiar University, Coimbatore; Dr Amarendra Pani; Dr Usha Rai Negi; Dr. S Muthusamy and Director, Research, Bharathidasan University; and Coordinator, Dr. P. Muruganantham.

Dr. S. Muthusamy delivered the welcome address. Dr. P Manisankar delivered the presidential address and delivered the speech about research in the various fields like Agriculture, Science, Engineering, Health Science and Social Science. Dr. S Sivasubramanian delivered an inaugural address including research publications, science and technology improvements. The guests from AIU, Dr Amarendra Pani and Dr Usha Rai Negi provided the vision and mission of AIU and motivated the participated students. During the inaugural function, Souvenir was released by the Chief Guest and the same was received by Prof M Lakshman, Professor of Eminence, Bharathidasan University. The juries for each discipline: Agriculture – Dr Arulmozhiselvan and Dr Udhaya Nandhini, Tamil Nadu Agricultural University; Basic Science – Dr S Sivasubramanian, Vice Chancellor and Dr C K Mahadevan, Emeritus Professor; Engineering: Dr S Jaisankar and Dr M Arulmozhi, Anna University; Health Science - Dr M L Raja, Ophthalmologist and Syndicate member and Dr KRuckmani, Pharmacist from Anna University; Social Sciences – Dr SIyyampillai, Emeritus Professor were present during the inaugural function and helped two days event with untiring effort.

After the inaugural event, the poster and oral sections were conducted in parallel for each 5 disciplines and evaluated by the corresponding juries. During the occasion, the students present their posters, some students present their models/working models along with their posters and explained in very attractive

manner. The oral presentations were presented one by one in parallel with different halls in front of the juries and audience. The presentation time was 7 min duration and 3 min for discussion per student. The juries were precisely evaluated all the 101 projects with an efficient manner. Finally, the big interesting event came to an end with the valedictory function on January 22, 2020. Dr G Gopinath, Registrar of Bharathidasan University; Dr M L Raja, MBBS, Syndicate member and Doctor in SRM Medical College, Trichy; Dr. Usha Rai Negi; Coordinators, Dr S Muthusamy and Dr K Srinivasan have occupied the dais. Dr S Muthusamy welcomed the guests on the dais and off the dais. The Registrar, Dr G Gopinath gave

a delightful valedictory address and encouraged the participants during the event. Followed by Dr M L Raja delivered an enthusiastic felicitation address. Dr Usha Rai Negi gave the valuable information about AIU and said that the National Convention will be conducted at Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal. Finally, Dr. S Muthusamy announced winners list and the selected students were called to the dais to receive their certificate and mementoes. There was a total of 15 projects (each 3 per field) selected from the discussed 101 projects. The vote of thanks was proposed by Coordinator, Dr K Srinivasan. Given below are the details of the winner projects selected from South Zone.

S No	Position	Area	Name of University	Name of Participants	Topic
1	1 st	Agriculture	Anna University, Chennai, Tamil Nadu	Jagathesh T, Gokul Raja N and Deepak R	An Automatic Hybrid Agro Machine
2	2 nd	Agriculture	University of Agricultural Sciences, Raichur	Siddesh Marihonnappanavara	Design Development and Evaluation of Automatic Groundnut Crop Thresher
3	3 rd	Agriculture	University of Agricultural Sciences, Raichur	Shrinivas Deshpande	Development of Amylose Sensor For Assessing Ageing of Rice
4	1 st	Basic Science	NITTE (Deemed to be University), Mangaluru, Karnataka	Anupama Karanth P	Development of Loop Mediated Isothermal Amplification Assay for the Sensitive and Rapid Detection of <i>Vibrio parahaemolyticus</i> in Seafood
5	2 nd	Basic Science	Bharathidasan University, Tiruchirappalli, Tamil Nadu	Paulraj G	Efficient-stable electrocatalytic seawater splitting using two-dimensional vanadium disulphide
6	3 rd	Basic Science	University of Madras	Athira M	Reaction of rigid 9-(phenylethynyl)-9H-fluoren-9-ol with nucleophiles under Lewis acid
7	1 st	Engineering & Technology	Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu	Sharmila M, Nivetha S and Aravinth V	Fiber Bragg Grating Based Sensor for Medical Applications
8	2 nd	Engineering & Technology	Bharathidasan University, Tiruchirappalli, Tamil Nadu	Mahalakshmi P, Madhumitha V and Lenya S	Distance Detection and Prevention of Car Crash Using Wireless Sensor in Arduino

S No	Position	Area	Name of University	Name of Participants	Topic
9	3 rd	Engineering & Technology	SRM Institute of Science & Technology, Chennai	Nagasudhan N, Kishore S, and Nithin Rogan	Autonomous Delivery Vehicle based on Convolutional Neural Network (CNN) and Machine Learning
10	1 st	Health Science	NITTE (Deemed to be University), Mangaluru, Karnataka	Prem Pramith Pinto and Pallavi Shet S	Accelerated Orthodontics
11	2 nd	Health Science	Alagappa University, Karaikudi, Tamil Nadu	Anitta S and Meenakshi S	Electrochemical Sensor for Quick Non-invasive Diagnosis of Kidney and Liver Diseases
12	3 rd	Health Science	Central University of Tamil Nadu	Anusha B	Purification to Cure HIV Completely and its aVaccination
13	1 st	Social Science	Sree Sankaracharya University of Sanskrit, Kalady	Dinu K, Anakha Babu, and Gayathri M R	ECO GUARD: Innovating Community Based Mangrove Management (CBMM) Through Green Technology
14	2 nd	Social Science	Sree Sankaracharya University of Sanskrit, Kalady	Athul Johnson, Shahla P, and Soumya Mohan K P	ASWAS: Overall Community Health Development through Open Fitness Hub for Women and Children
15	3 rd	Social Science	Mahatma Gandhi University	Anila B Joy and Diya Nelson	A Study on the Administrative Efficiency of Local Self Governance in Ernakulam



Weekly E- Essay Series of Scholarly Articles on Reimagining Indian Universities

A 'Weekly E-Essay Series of Scholarly Articles on 'Reimagining Indian Universities' was launched on AIU Website on 15th May, 2020 as a part of the change which AIU seeks to bring about in the academics in this day and age of COVID-19. The essays scheduled for release in this series are in a broad range of fields covering a variety of topics pertinent to 'Reimagining Indian Universities' received from distinguished experts and authorities in the area of Indian higher education included in the Book 'Reimagining Indian Universities' edited by Dr. Ms.Pankaj Mittal and Dr Sistla Rama Devi Pani. In the series, every week one scholarly article written by an erudite scholar of Indian academia is being released on the AIU Website. The series was initiated with the essay of Prof Bhushan Patwardhan, Vice Chairman, University Grants Commission, India on 15th May, 2020.

The essays are unique, enlightening and inspirational. Those who are interested in reading these essays may browse AIU Website: www.aiu.ac.in



THESES OF THE MONTH

SOCIAL SCIENCES

A List of doctoral theses accepted by Indian Universities (Notifications received in AIU during the month of June - July, 2020)

Anthropology

1. Saxena, Gaurav. **Military intervention in Maoist affected areas: Merely a Sovereign discretion or in the larger national good.** (Prof. Rashmi Sinha), School of Social Sciences, Indira Gandhi National Open University, New Delhi.

2. Vinayaka, J. **Beda community women's agriculture labour's Status of Hyderabad Karnataka (Reference to Ballari District).** (Dr. L. Srinivasa and Dr. Jagadish Kumar C Nayaka), Department of Anthropology, Kannada University, Hampi, District Bellary.

Commerce

1. Gamit, Amit Samjibhai. **Survey of total quality management practices in garden silk mills.** (Dr. Heena S Oza), Department of Commerce, Veer Narmad South Gujarat University, Surat.

2. Bhatt, Bansree Sandip. **A study of organizational citizenship behaviour of employees working in selected star rated hotels of Gujarat.** (Dr. Heena S Oza), Department of Commerce, Veer Narmad South Gujarat University, Surat.

3. Dave, Hasmukhkumar Jayantilal. **A study on non-performing assets and its impact on profitability of regional rural banks in State of Gujarat.** (Dr. J R Raval), Department of Commerce, Saurashtra University, Rajkot.

4. Fefar, Dineshchandra Dharmshibhai. **The influence of corporate social responsibility on business performance of Indian IT industry.** (Dr. M K Maru), Department of Commerce, Saurashtra University, Rajkot.

5. Ganvit, Rameshbhai Chimanbhai. **Analytical study of financial performance of automobile industry of India.** (Dr. Kamlesh S Dave), Department of Commerce, Saurashtra University, Rajkot.

6. Gupta, Sharuti. **An empirical study on levels of awareness and satisfaction on banking services of bank customers with reference to union territory of Dadra and Nagar Haveli.** (Dr. S Balasubramanian), Department of Commerce, Veer Narmad South Gujarat University, Surat.

7. Kavita. **Inter-dependence among stock exchanges across the world: A study with special reference to risk-return relationship.** (Dr. D P Warne), Department of Commerce & Management, Chaudhary Devi Lal University, Sirsa.

8. Pandey, Ankul. **An evaluation of the skill development initiative in Madhya Pradesh: With special reference to Sagar District.** (Prof. D K Nema), Department of Commerce, Dr Harisingh Gour Vishwavidyalaya, Sagar.

9. Tank, Nisha Gopalbhai. **A comparative study on performance evaluation of selected fertiliser units of India.** (Dr. U N Jhala), Department of Commerce, Saurashtra University, Rajkot.

Economics

1. Aghara, Durlabhji Khimaji. **Changing pattern of rural economy reference to three village Madhapar, Mirzapar and Sukhpar of Bhuj Taluka.** (Dr. K C Vachhani), Department of Economics, Saurashtra University, Rajkot.

2. Badaik, Suraj. **An empirical analysis of the dynamics of fiscal deficit: Macroeconomic impacts and fiscal sustainability in India.** (Prof. Prasant Kumar Panda), Department of Economics, Central University of Tamil Nadu, Thiruvavur.

3. Basumatary, Ranjit. **Economics of education: A comparative analysis of private and public schools up to senior secondary level of Bodoland territorial area Districts in Assam.** (Dr. Ratnesh Debnath), Department of Economics, Bodoland University, Kokrajhar.

4. Basumatary, Sankhang. **Consumption expenditure pattern among the Bodos: A study of Baksa District, Assam.** (Dr. Prasen Daimari), Department of Economics, Bodoland University, Kokrajhar.

5. Bhushan, Varun. **Demographic dividend in India regional variations.** (Prof. Narayan Prasad), School of Social Sciences, Indira Gandhi National Open University, New Delhi.

6. Mohita. **Attitude of employers and employment status of people with disability in corporate sector.** (Dr. Smita Gupta), School of Social Sciences, Indira Gandhi National Open University, New Delhi.

7. Sangma, Pyallie D. **Female workforce in agriculture in India: Trends and determinants.** (Dr. Veronica Pala), Department of Economics, North Eastern Hill University, Shillong.

Education

1. Bagiya, Daksha Rambhai. **Construction and standardization of language aptitude test and interest inventory.** (Dr. Ashaben M Patel), Department of Education, Saurashtra University, Rajkot.

2. Bagiya, Manisha Rambhai. **A study of an effectiveness of workcard and computer assisted learning on students achievement and attitude of English subject.** (Dr. Ashaben M Patel), Department of Education, Saurashtra University, Rajkot.

3. Chaudhari, Pradipkumar Kantubhai. **Comparative study of organization atmosphere of higher secondary schools.**

(Dr. Ilaben R Kothari), Department of Education, Saurashtra University, Rajkot.

4. Chetry, Geetam. **Career maturity and occupational aspiration amongst the academic and vocational students of West Garo Hills in Meghalaya.** (Prof. Nikme S C Momin), Department of Education, North Eastern Hill University, Shillong.

5. Maheta, Binduben Anantray. **A comparative study of the educational achievement of students and opinions of primary school teachers towards Pragna approach.** (Dr. N M Viramgama), Department of Education, Saurashtra University, Rajkot.

6. Marak, Namseng R. **Problem behaviour and guidance and counseling needs amongst the adolescent students of select secondary schools of East and West Garo Hills in Meghalaya.** (Prof. Nikme S C Momin), Department of Education, North Eastern Hill University, Shillong.

7. Marbaniang, Careen E G. **Stress level, coping strategies and mental health of women teachers of secondary schools of Meghalaya.** (Dr. Yodida Bhutia and Prof. C Nongbri), Department of Education, North Eastern Hill University, Shillong.

8. Parmar, Rohiniba Harisinh. **Difficulties faced by teachers of secondary school in implementing principles teaching: A qualitative research.** (Prof. Kaladhar Arya), Department of Education, Saurashtra University, Rajkot.

9. Rahman, Md Mizanoor. **A critical study on policy and developments in technology-enabled distance learning for open schooling and open basic education in Bangladesh.** (Prof. Santosh Panda), School of Education, Indira Gandhi National Open University, New Delhi.

10. Yadav, Dhannjay Singh. **Prarambhik shiksha ke vikas mein samudaye kee bhumika: Kesali Vikaskhand, Jila Sagar, Madhya Pradesh ke vishesh sandarbh mein.** (Dr. Sanjay Sharma), Department of Adult Education, Dr Harisingh Gour Vishwavidyalaya, Sagar.

Journalism & Mass Communication

1. Patel, Janhavi Subhash. **A study on existence and role of selected English news-magazine in India.** (Dr. Sonal Pandya), Department of Mass Communication and Journalism, Gujarat University, Ahmedabad.

2. Satish Kumar. **Haryana mein vishawvidhalyoan ke vidharthyion mein smart phone kee upyogita va nirbharta.** (Dr. Amit Sangwan), Department of Journalism & Mass Communication, Chaudhary Devi Lal University, Sirsa.

3. Sharma, Sapana Rameshchandra. **Role of impact of EMMRCs in the digital era: Special reference to centers located in Ahmedabad and Poona.** (Dr. Sonal Pandya), Department of Mass Communication and Journalism, Gujarat University, Ahmedabad.

Law

1. Anju. **Women centric laws vis-a-vis reverse discrimination: Recent Judicial trends.** (Prof. Ashok Kumar), Department of Law, Bhagat Phool Singh Mahila Vishwavidyalaya Khanpur Kalan.

2. Dkhar, Umeshwari. **Dispensation of justice under Khasi Hills autonomous District council.** (Dr. A K Singh), Department of Law, North Eastern Hill University, Shillong.

3. Sonowal, Mayurakhi. **Victim compensation under Indian criminal justice system.** (Prof. Jyoti J Mozika), Department of Law, North Eastern Hill University, Shillong.

4. Teena. **Emergence of environmental jurisprudence through judicial activism in India: An analytical study.** (Prof. Ajay Kumar Bhatt and Dr. S K Singh), Amity Law School, Amity University, Gurgaon.

Library & Information Science

1. Sharma, Subash Subedi. **Accuracy and credibility of information in financial newspaper: Review of stock recommendations.** (Dr. S Ravikumar), Department of Library and Information Science, North Eastern Hill University, Shillong.

Management

1. Johar, Sheetal. **Health record management system: A comparative analysis of public and private hospitals in Karnataka.** (Dr. Basanna S Patagundi), School of Management, CMR University, Bangalore.

2. Laskar, Sahnaj Rahmatulla. **Perspectives and practices of social marketing: A study of West Garo Hills Community Resource Management Society and BAKDIL in West Garo Hills, Meghalaya.** (Prof. G Singaiah), Department of Management, North Eastern Hill University, Shillong.

3. Sangma, Dan A. **Role of support institutions for micro enterprise development in Garo Hills Districts of Meghalaya.** (Dr. Kh Devananda Singh), Department of Management, North Eastern Hill University, Shillong.

4. Sushma Kumari. **Performance of mutual funds across funds attributes: The Indian panorama.** (Dr. Sanket Vij), Department of Management, Bhagat Phool Singh Mahila Vishwavidyalaya Khanpur Kalan.

Physical Education & Sports

1. Brahmabhatt, Bharatiben Jayantibhai. **A study of the effect of physical fitness by minor games and yoga on male students studying in school.** (Dr. Ramesh J Chaudhari), Department of Physical Education, Gujarat University, Ahmedabad.

2. Sharma, Ankit. **Tantreyog mein varnit Naad ka vishleshnatamak adhyayan.** (Prof. Ganesh Shankar), Department of Yoga, Dr Harisingh Gour Vishwavidyalaya, Sagar.

3. Solanky, Shraddha. **Mahila kediyoan par yogaabhyas ke prabhav ka adhyayan.** (Prof. Ganesh Shankar), Department of Yoga, Dr Harisingh Gour Vishwavidyalaya, Sagar.

Political Science

1. Basumatary, Swgwmshar. **Ethnic conflict and its impact on human security: A study of Kokrajhar District, BTAD Assam from 1996-2014.** (Dr. Gayatri Dekadolo), Department of Political Science, Bodoland University, Kokrajhar.

2. Deka, Lina. **Rights and empowerment of women: A study of women representatives of Gram Panchayats of Kamrup (Rural) District, Assam.** (Prof. Jyotiraj Pathak), Department of Political Science, Bodoland University, Kokrajhar.

3. Iswary, Ewki. **Peace and conflict transformation in BTAD: Issues and challenges of human rights.** (Dr. Gayatri Dekadoloji), Department of Political Science, Bodoland University, Kokrajhar.

4. Karjie, Berla Khungur. **The voting behaviour in BTAD election 2004-2016.** (Prof. Jyotiraj Pathak), Department of Political Science, Bodoland University, Kokrajhar.

5. Lalfakawmi, B. **Political participation of women in Mizoram.** (Prof. K V Reddy), Department of Political Science, Mizoram University, Aizawl.

6. Narzary, Jhumi. **Role of NGOs: A study of NERSWN and NEDAN foundation.** (Dr. Gayatri Dekadoloji), Department of Political Science, Bodoland University, Kokrajhar.

7. Narzary, Mamata. **Role of all Bodo students' Union and its impact on the politics of Assam (From 1967 to 2016).** (Prof. Jyotiraj Pathak), Department of Political Science, Bodoland University, Kokrajhar.

8. Venkataravanappa, M. **Dalit participation in local governments: Reference to Kolar District.** (Dr. H D Prashant), Department of Development Studies, Kannada University, Hampi, District Bellary.

Psychology

1. Dhobi, Mohd Rafiq. **Psychosocial factors of substance abusers and non-abusers in Kashmir: A comparative study.** (Prof. Suhas Shetgovekar and Dr. Nisar Ahmad), School of Social Sciences, Indira Gandhi National Open University, New Delhi.

2. Dobariya, Niramala Popatbhai. **A comparative study of insecurity and mental health of higher secondary students of Junagadh District.** (Dr. L G Bhalia), Department of Psychology, Saurashtra University, Rajkot.

3. Karsan, Jotava Sarman. **A comparative study of occupational stress, adjustment and mental health of industrial employees.** (Dr. Dinesh A Dadhanian), Department of Psychology, Saurashtra University, Rajkot.

4. Parmar, Jaydipsinh Mangalsinh. **Job stress and organizational commitment among bank employees: Role of organizational socialization and self-efficacy.** (Dr. T L Zalawadia), Department of Psychology, Saurashtra University, Rajkot.

5. Pritiben, Shukhadevbhai Khambalkar. **A study of life events social skills and marital adjustment among normal women and women suffering from domestic violence.** (Dr. L G Bhalia), Department of Psychology, Saurashtra University, Rajkot.

6. Sagar, Mehul Arvindbhai. **Mental health and job satisfaction among school teachers.** (Dr. L G Bhalia), Department of Psychology, Saurashtra University, Rajkot.

Public Administration

1. Gurjot Kaur. **Sarva Shiksha Abhiyan in Rajasthan: Policy administration and impact with special reference to Dungarpur and Jhunjhunu District.** (Prof. Alka Dhameja and Prof. Ramesh K Arora), School of Social Sciences, Indira Gandhi National Open University, New Delhi.

2. Malik, Saroj. **Good governance through Gram Sabha in Haryana: A study.** (Dr. Sultan Singh), Department of Public Administration, Chaudhary Devi Lal University, Sirsa.

3. Mir, Murtaza Hussain. **Impact of Sarva Shiksha Abhiyan (SSA) on District Education Administration.** (Prof. Alka Dhameja), Department of Public Administration, Indira Gandhi National Open University, New Delhi.

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Social Work

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2. Vanlalhruaizela, K. **Oil palm cultivation and rural livelihood in Kolasib and Mamit Districts, Mizoram.** (Prof. Kanagaraj Easwaran), Department of Social Work, Mizoram University, Aizawl.

Sociology

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2. Nagesha, M. **Traditional knowledge in Kampladevara Hatti.** (Dr. Chaluvaraju and Dr. Purvachar M), Department of Tribal Studies, Kannada University, Hampi, District Bellary.

3. Rajanna, D. **Social change in Madiga Community: With special reference to Citradurga District.** (Dr. Chaluvaraju and Dr. K M Metry), Department of Tribal Studies, Kannada University, Hampi, District Bellary.

4. Theunuo, Thepfasalie. **Emerging land relations in Nagaland: A study of Angami community.** (Prof. R Deka), Department of Sociology, Tezpur University, Tezpur.

5. Uikey, Ramsingh. **Aarakshan Niti: Ek samajshastriye vishleshan: Namradapuram Sambhag ke vishesh sandarbh mein.** (Prof. Diwakar Sharma), Department of Sociology, Dr Harisingh Gour Vishwavidyalaya, Sagar.

Tourism & Hospitality Services

1. Prem Ram. **Food culture and its impact on the hospitality sector in Delhi since independence.** (Dr. Sonia Sharma and Dr. Lalit Nirula), School of Tourism and Hospitality Service Management, Indira Gandhi National Open University, New Delhi. □

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Dates of Examination:	5th, 6th, 7th, 12th, 13th & 14th February 2021. Two sessions (forenoon and afternoon) each day.	
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