



**K.K. Wagh Education Society's
K.K. Wagh Institute of Engineering
Education and Research, Nashik.**

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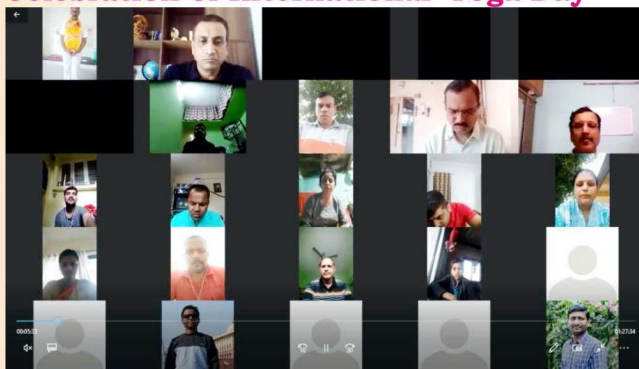
■ **Webinar on “Journey Towards Autonomy”**



-- Presentation By --
Prof. (Dr.) Rajesh Jalnekar
Director,
Vishwakarma Institute of Technology, Pune

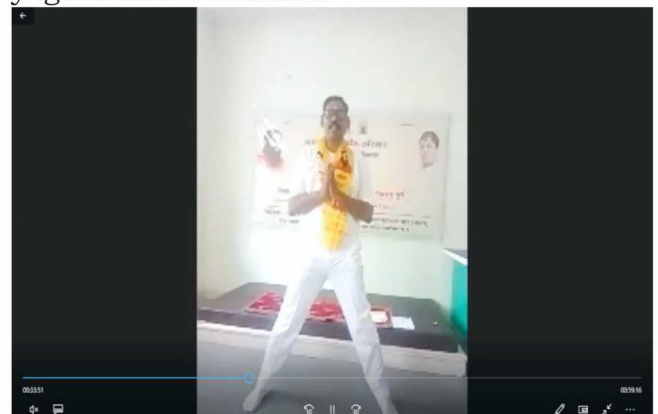
Webinar on “Journey towards Autonomy” By Dr Rajesh Jalnekar
On 12th June 2020, our institute organized a webinar on “Journey towards Autonomy” by Dr. Rajesh Jalnekar, Director of VIT Pune for all staff of the institute. For this webinar Hon. Chairman Shri. Balasaheb Wagh, Trustee Er. Sameer Wagh, Principal Dr. K. N. Nandurkar, all Heads of department and staff of the institute were present. Dr. Rajesh Jalnekar gave the information about various procedures to follow once the Autonomy is received. He explained in detail about various advantages of Autonomy for the institute for maintaining the quality education.

■ **Celebration of International 'Yoga Day'**



6th International Yoga Day was celebrated online on 21st June 2020 by K. K. Wagh Education Society jointly with the help of Patanjali Yog Samiti. Principal Dr. K. N. Nandurkar, all Heads of department and staff

of the institute attended online and practiced yoga at their residence.



6th International Yoga Day Celebration

■ **Syllabus Implementation Workshop**



Syllabus Implementation workshop by Production Engineering

The Savitribai Phule Pune University has introduced 2019 pattern in last academic year. The revised syllabus for second year of all engineering course will be implemented from academic year 2020-21. The revised syllabus has been approved by the University and the implementation of this syllabus is to be done uniformly across all the engineering institutes affiliated to Savitribai Phule Pune University. The university selected our institute for conducting such workshops under three Board of Studies of University. Department of E & TC organized “Syllabus orientation workshop” in association with

SPPU Pune for faculties of E & TC on 22nd June 2020. Department of Production Engineering organized the “Syllabus orientation workshop” on 23rd June 2020. Also Department of MCA organized organized Syllabus orientation workshop” on 18th July 2020.



Syllabus Implementation workshop by E & TC



Syllabus Implementation workshop by MCA

Guru Shishya Punyasmaran Staptah



Anniversary Lecture Series

Guru Shishya Punyatithi Saptah was organized during 20th to 25th July 2020 on occasion of joint Punyatithi of Late Padmashri Kakasaheb Wagh, the social reformer Late Tatyasaheb Boraste and the well-known Philanthropist Kakusheth Udeshi. Anniversary lecture series online was

organized during these days. The main program was organized on 22nd July 2020. Hon Shri. Nathe sir was Chief guest on this occasion. He shared his memories and work done by Late Kakasaheb Wagh. On 20th July 2020 a lecture by Prof. M. B. Murugkar (Head of Mechanical Engineering department) was organized on topic “Covid 19-Online Education and thereafter”. Also lecture by Prof. Dr. S. Y. Kute, Dean Academic was organized on “Management of Water and Irrigation by advanced Technology”. Lecture by Principal Dr. K. N. Nandurkar was organized on 22nd July on the topic “Current status of Higher Education System” and by Prof. Dr. V. M. Shewalikar on 26th July was organized on the topic “Agriculture and Education”. These lectures were attended by the all staff of K. K. Wagh Education Society. Hon Chairman Shri. Balasaheb Wagh, Trustee Shri Ashokbhai Merchant, Trustee Er. Sameer Wagh, Secretary Prof. K. S. Bandi, Principal Dr. K. N. Nandurkar, all Heads of department were present for the lecture.

Webinar on “Towards Successful Autonomy”

Origin of Autonomy

The Kothari commission (1964-66) considered a must for intellectual development and had recommended:

- Freedom in curriculum development
- Adoption of new teaching learning methods
- Revised rules for admissions
- Implementation of separate evaluation method
- Introduction of specific program

Webinar on “Towards Successful Autonomy” by Dr. L. M. Waghmare

On 11th July, our institute organized webinar on “Towards Successful Autonomy” by Dr. L. M. Waghmare, Dean (Science and Technology), Swami Ramanand Tirth Marathwada University, Nanded. Principal Dr. K. N. Nandurkar welcomed the Chief Guest Dr. L. M. Waghmare. He explained all the preparations to be done in view of getting autonomy. He gave information about the responsibilities for the various posts involved in Autonomy. Principal Dr. K. N. Nandurkar, all Heads of department and staff of the institute attended the webinar.

“Online Abhang Wari”

“Online Abhang Wari”, a unique program of devotional songs was organised and presented by “Nakshatranche Dene” team of K. K. Wagh Institute of Engineering Education and Research on July 4, 2020. This programme was organized on the occasion of Aashadi Ekaadashi which is an

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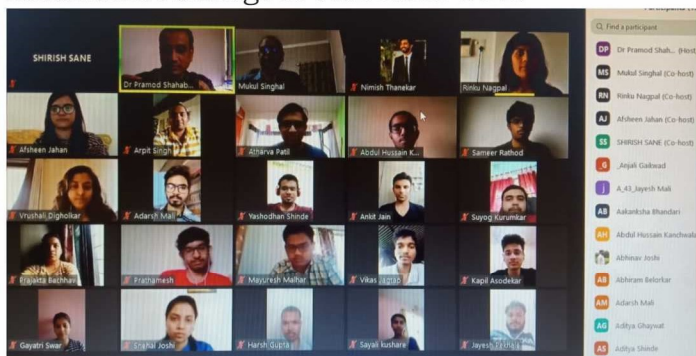
important religious event in the State. Prof. Omkar Buwa co-ordinated the activity and explained the meaning of all songs beautifully. For this program Hon Chairman Shri. Balasaheb Wagh, Principal Dr. K. N. Nandurkar, all Heads of department, staff and students of the institute were present.



Online Abhang Wari

Training & Placement Cell: June-August 2020

Training and Placement Cell has organized various activities like: MOCK Group Discussion and Personal Interview for final year students, 30 hours Aptitude Skill Training, Alumni Connects etc. FinIQ, Birlasoft and Josh Software Conducted the campus Interview for 2020-21 batch and 41 students got selected with a maximum Package of 11.00lacs CTC.



Birla Soft Campus Interview

Sr. No.	Name of Company	Branch	No. of Students Selected	Batch
1	BirlaSoft	Computer	13	2020-21
		Electronics	1	
		IT	9	
		IT	1	
2	FinIQ	Computer	10	
		E&TC	3	
		IT	1	
3	Josh Software	Computer	4	
4	Aress Software	Computer	1	
		IT	1	
5	Vidyut Udyog	Electrical	2	
6	Adani	Electrical	6	
7	Jindal Saw Limited	Mechanical	2	
8	Lentra AI	IT	2	
		Computer	1	

Online STTP on “IoT & Advanced Power Electronics Applications in Smart Grid”

Department of Electrical Engineering organized an AICTE sponsored Phase-I online STTP on “IoT& Advanced Power Electronics Applications in Smart Grid” during August 10-14, 2020. The

resource persons for STTP were Prof. Dr. H. M. Suryawanshi, Prof. Dr. Ritesh Kumar Keshri, Prof. Dr. B. E. Kushare, Prof. Dr. B. Chitti Babu, Dr. Pradyumn Chaturvedi, Prof. Dr. M. V. Aware, Prof. Dr. M.S. Ballal, Prof. M. M. Renge and Prof. Dr. Prashant B. Bedekar. Principal Dr. K. N. Nandurkar addressed to the participants at the time of inauguration of the program. Total 450 participants from all over the country joined this programme.



Online STTP on “IoT& Advanced Power Electronics Applications in Smart Grid”

Independence Day Celebration



Independence Day celebration

An Independence Day was celebrated with full honour on 15th August 2020. The flag was hoisted at the hands of Shri. Ashok Merchant, Trustee of K. K. Wagh Education Society. For the program Mrs. Shushmaben Ashok Merchant was also present. Principal Dr. K. N. Nandurkar, other Principals and staff members from all the Institutes of this campus and students from hostels were present. Principal Dr. K. N. Nandurkar addressed to all the staff on this occasion of Independence day. The programme was conducted by following the social distance norms provided by the Sate Government. Participants were made aware about the 'Atma Nirbhar' India scheme launched by the Government. All Watchman of institutes who

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were present daily in the institute during the lockdown period inspite of COVID 19 situation were felicitated at the hands of the Chief Guest. This programme was available on FB live for all staff and students.

■ **Expert Lecture/Seminar/Courses/Workshop Conducted:**

- Computer Engineering department organised 3 days State Level Online Workshop on “Online Content Creation and Assessment Tools” for School Teachers by Prof. Dr. S. S. Sane (Head of Computer Engg.) and their staff from 4th to 6th June 2020, Online Webinar on “Introduction to Computer Vision” by Mr. Prashant Bhende, NVIDIA on 29th June 2020 and Expert talk on “Every programmer must know...”NODE JS And RESTFUL API Development” by Mr. Akshay Borase, Project Engineer, Persistent Systems Ltd on 4th July 2020. Same department also organized Expert talk on Topic “Artificial Intelligence and applications of AI in the real world” by Prof. Mausami Munot (PICT) on 11th July 2020 and Online Webinar on “AI and Data Analytics” by Mr. Megha Shyam, IBM certified Data Scientist from Hyderabad and Mr. Kiran Babu C V, Accredited Data Science Trainer on 17th July 2020.
- Department of Production Engineering had organized One day online Webinar on 'Out of control' during 27 June 2019. Same department also organized Expert Talk on “Importance of having Good Aptitude in Industry and Application of Quant in Industry” by Sagar S. Ladda, Business Analyst, Varroc Engineering Ltd. Aurangabad on 11th July 2020. Expert Talk on “Verbal Ability and it's importance in industry” by Ms. Priyanka Upadhye-Gauda, Founder Dimensions Academy on 18th July 2020 and Training Session on “Logical Thinking and Its Application in Industry” by Ms. Diksha Bhardiya, Director Dimensions Academy, Aurangabad 25th July 2020.
- Department of Electronics and Telecommunication organized a webinar on “How to prepare for campus interview” by Mr. Omkar Kukade, Ex. HR Birla Soft Pvt. Ltd. Pune on 04/08/2020, webinar on “Electronics of Mind Management” by Mr. Varun Dabke, IT Consultant and webinar on “Opportunities in Space Application and Satellite Communication” by Er. Apurva Jakhadi, NASA-Honeywell Space Educator, Member (UN-Space Generation Advisory Council, Austria) on 14/08/2020. Same department also organized online workshop on “Signal Processing using MATLAB” by Mr. Suraj Gawande, Sr. Engineer,

Application Engineering Team-MATLAB, Design Tech System Pvt. Ltd on 26/08/2020, webinar on “Project Management” by Mr. Jagdish A. Ugale, Sr. Software Engineer, TAS Power Tek Ltd on 29/08/2020 and webinar on “An Overview of IoT and Enabling Technology” by Mr. Abhijeet Deogirikar, Founder and CEO, Copper Cloud on 31/08/2020.

- Civil Engineering Department organized Expert Talk by Mr. Nandkishor Sonar on 13/08/2020 and Expert Lecture by Mr. Sameer Shah on 17/08/2020. Same department also organized Expert Lecture by Mr. Mayur Jain on 26/07/2020, Expert Lecture of Dr. A. J. Pawar on 13/08/2020 and Expert Lecture of Mr. Ajinkya Magar on 28/08/2020.
- Electrical engineering Department organized FDP on “ Artificial Intelligence and Machine Learning Applications in Power Systems” by Dr. Shushama Shelake, Dr. Amit Sant, Dr. Atul Koshi, Dr. Rajesh Kumar, Dr. V. R Kalkhambkar, Prof. Pankaj Gautam from 01/06/2020 to 03/06/2020. Same department also organized Workshop on “Canvas –Learning Management Platform on 30/06/2020. Expert Lecture by Mr. Harsh Deodhar on “How should I start my Startup? Entrepreneurship journey” from Ah! Ventures on 07/07/2020 and Webinar on "Basics of Earth Testing" by Mr. Anant Waghchoure from Megger India Pvt. Ltd under Centre of Excellence K.K.W.I.E.E & R, Nashik on 11/07/2020. Same department also organized Expert Lecture by “Mr. Chainesh Patil”, Associate General Manager, Schneider Electric India Pvt Ltd. on "Basics of Power Quality” on 24/07/2020, Expert Lecture by "Mr. John Yeshuraj”, CG, Nashik on “Student Project selection and Management” on 23/07/2020 and Webinar on "Adaptive Tracker for n-link Rigid Robotic Manipulators via Sliding Mode Control" by Dr. Saleh Mobayen, Associate Professor from the Department of Electrical Engineering, University of Zanjan, Iran on 28/07/2020. Same Department also organized Expert Lecture by Mr. Milind Dalvi, Vice President, Marine Electricals Ltd on “LV Equipment Fundamentals” on 01/08/2020, Expert Lecture by Mr. Amol Kulkarni, CG Power and Industrial Solutions Ltd on “Quality Management” on 05/08/2020 and Expert Lecture by Mr. S. G. Pande, Retired Executive Engineer(Add.), MSEDCL on “Electrical Safety” on 18/08/2020. Same department also organized Expert Lecture by Nilesh V.

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Salgaonkar, Founder Director, TAACT on "Entrepreneurship: Why & How ?" on 25/08/2020.

- Chemical Engineering department organized webinar by Dr. Makrand Pimplapure on "Microreactors" 09/06/2020 and Expert Lecture on "Innovations in Chemical Engineering" by Dr. P. V. Pathak, Rtd. Process Engg., HUL, Mumbai on 10/07/2020. Same department also organized Expert Lecture on "Piping Design Engineering" by Mr. Ravindra Jorigal, Manager- Business Development, Asian Academy of Professional Training, Pune on 18/07/2020 and Expert Lecture on "Process control (Remote operations) & process safety" by Mr. C. R. Mohikar, Petro-Project Consultant, Nashik on 23/07/2020. Same department also organized Expert Talk on topic on "Scope of Process Modelling and Simulation" by Mr. Shyamshankar Singh, Equinox Software and Services Pvt Ltd Pune on 05/08/2020, Expert Talk on topic of Process Design Engineering by Mr. Ghanashyam Patil, Process Engineer, Larsen & Tubro Ltd., Vadodara on 17/08/2020 and Expert Lecture on "Career options in Energy Audit by Pramod Daspute, Energy Auditor and Faculty Trainer, PCRA, Mumbai on 25/08/2020. Same department also organized Expert Lecture on "Pressure Relief Valves" by Siddhesh Jadhav, Lead Process Engineer, Burns McDonnell Engineering India Pvt. Ltd., Mumbai on 26/08/2020, Expert Lecture on "Catalysis" by Dr Yogeshwar Suryawanshi, VJTI, Mumbai on 27/08/2020 and Expert Lecture on "Importance of Energy Conservation-ITP from PCRA by Sudhir R Shah, Training Faculty, Petroleum Conservation Research Association (PCRA) Mumbai on 28/08/2020.
- MBA department organized Expert Talk on "Industry expectation from management graduate after COVID-19" by Ms. Dnyanada Mande, HR Executive, Ukay Metals Pvt Ltd, Nashik on 25/07/2019, Expert Talk on "Service Operation Management Mr. Sagar Sonawane Production Lead, Crompton Greaves Ltd, Goa on 06/08/2020 and Expert Talk on "HR Operations Mr. Chandran Nambiar, Dy. General Manager, Alcon Electronics Pvt Ltd, Nashik on 07/08/2020. Same department also organized Expert Talk on "Global Dimensions to HR Strategy by Ms. Juhi Gupte, Recruitment Lead, India Saksoft Ltd, Pune on 11/08/2020, Expert Talk on "Practice of Management" by Dr. Shantam Shukla, Lead Innovation, Forbes Marshall, Pune on 20/08/2020 and Expert Talk

on "Digital Banking" by Mr. Chaitanya Dabir, Vice President and Cluster Head, HDFC Bank Ltd, Nashik on 25/08/2020. Same department also organized Expert Talk on "Self-Management for Employment" by Mr. Shrikant Karode, Ex. GM, Jyoti Structures Ltd, Nashik on 29/08/2020 and Online Workshop on "Effective written communication" by Mr. Avdhoot Wadhule on 27- 28th August 2020.

■ **Expert Lecture/Seminar/Courses/Workshop Attended:**

- Computer Engineering departmental staff Prof. S. A. Gade attended Online Quiz on "Soft Computing and Optimization Algorithms" by MET, Nashik on 1st to 3rd June 2020. Prof. R. H. Jadhav, Prof. S. M. Malao, Prof. A. V. Kolapakar, Prof. P. P. Vaidya, Prof. J. R. Mankar & S. A. Gade have attended three days state level online workshop on "Online content creation and assessment tool" from 4th to 6th June 2020. Prof. Dr. S. M. Kamalapur, Prof. S. K. Gondhalekar have attended One week FDP on Exploring the Dimensions of Innovation, Incubation and Emerging Technologies to Embrace Post COVID Change, Finolex Academy of Management & Technology, Ratnagiri from 8th to 12th June 2020. Prof. N. S. Sonawane attended Webinar on "Machine Learning with Python and Cloud Deployment" Zeal College of Engineering & Research, Pune on 19th June 2020. Prof. S. M. Malao has attended Webinar on "Artificial Intelligence and Data Analytics" IEEE SIT student branch, Sinhad Institute of Technology, Lonawala on 28th June 2020.
- Department of Electronics and Telecommunication Head, Prof. Dr. D. M. Chandwadkar has attended STTP on "IoT& Advanced Power Electronics Applications in Smart Grid" from 10/08/2020 to 14/08/2020, Prof. Dr. (Mrs.) M. R. Admane (Satone) attended AICTE Training and Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 24/08/2020 to 28/08/2020, Mrs. K. Nirmalakumari and Mrs. P. P. Patil have attended FDP on "Personality Development & Innovation Pedagogies in Teaching Learning before and after Covid-19" from 03/08/2020 to 07/08/2020. Mr. D. D. Khartad attended Workshop on "Wireless Communication Technologies for IoT" from 27/07/2020 to 07/08/2020. Ms. J. R. Shinde and Mrs. V. S. Taware have attended Faculty Development Workshop on "Power Electronics, AC/DC Machine, Electrical Drives and Renewable Energy using CASPOC Simulation Software" on 26/08/2020.

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- Department of Production Engineering staff Mr. Nilesh Wakchaure completed a Coursera course “Introduction to solar cells” on June 20, 2020. Mr. Nilesh Wakchaure completed a Coursera course on “Data Analysis Using Excel” on June 18, 2020. Mr. Amol Kamble completed a Coursera course on “Initiating Planning and Projects” on June 3, 2020.
- Electrical Engineering staff Dr. R. K. Munje attended FDP on “AI and ML applications in Power System”, Workshop on “ICT Tools for Collaboration, Online course on Introduction to Power Electronics” and Webinar on “Research Integrity and Publishing Ethics”. Prof. Ganesh N. Jadhav attended Workshop on “ICT Tools for Collaboration”. Prof. A. M. Jain Prof. A. M. Shewale, Prof. Omkar N. Buwa, Dr. Prof. Mohan P. Thakre, Dr. Prof. R. K. Munje, Prof. Ganesh N. Jadhav, Prof. Ms. Jaya A. Mane, Prof. Jaydeep .P, Shah, Prof. R. S. Mane, Prof. Ms. Ruchi Kumari, Prof. Ms. Surya Nair, Prof. Mrs. Tanuja N. Date have attended Webinar on “Adaptive Tracker for n-link Rigid Robotic Manipulators via Sliding Mode Control” on 28/07/2020. Prof. Dr. R. K. Munje attended Webinar on “Innovation: What, Why and How?” organized by IEEE Bangalore on 19/07/2020. Same department staff Prof. Ganesh. N. Jadhav attended Online course on “MathWorks Training Service: Machine Learning Onramp” on 01/08/2020.
- Chemical Engineering staff Prof. P. P. Joshi has attended workshop on “Chemical Engineering- Towards Sustainability and Process Intensification” organized by Gharda Institute of Technology, Ratnagiri from 15/06/2020 to 17/06/2020. Prof. P. P. Joshi, Prof. Z. K. Deshmukh Prof. T. B. Mahale, Prof. G. B. Daware, Prof. S. N. Jain have attended workshop on ICT Tools for Collaboration Organized by IQAC- KKWIEER, Nashik from 01/06/2020 to 02/06/2020. Prof. P. P. Joshi has attended workshop on "Analytical techniques for determination of elemental constituents" Organized by Siddaganga Institute of Technology, Tumakuru, Karnataka from 08/06/2020 to 09/06/2020. Prof. T. B. Mahale attended workshop on "Online Teaching & Assessment Tools for OBE and Publications of Papers in Pedagogy Journals" Organized by Rajarambapu Institute of Technology, Sangali, Maharashtra on 20/06/2020. Prof. Z. K. Deshmukh attended workshop on “Development and Impact of Recent Technologies & Innovations in Chemical Engineering” organized by Department of Chemical Engineering MGM's College of Engineering on 21/06/2020. Prof. Varsha Parashar has attended workshop on “Brief Insights on Project Management in Oil and Gas Engineering, Procurement & Construction Projects” organized by Department of Chemical Engineering, SSBT's College of Engineering & Technology, Bambhori, Jalgaon (M.S.), India on 27/06/2020. Prof. P. P. Joshi also attended Webinar on “An Overview of CFD and its Applications in Today's World” organised by AISSMS College of Engineering, Pune on 16/08/2020.
- Information Technology departmental staff Prof. Shilpa P. Mene completed the Coursera certifications on “Cyber Security and the Internet of Things” offered Kennesaw State University in June 2020. Prof. Umesh K. Gaikwad attended one week Faculty Development Program (FDP) on “R Programming” organized by Department of Information Technology, Shri Vile Parle Kelavani Mandal's Institute of Technology Dhule in association with Indian Institute of Technology Bombay, conducted from 1-7th June 2020. Dr. Preeti D. Bhamre (Head of IT department) had participated in the National Webinar on “An Insight towards Assessment & Accreditation Process for Affiliated Colleges in India” held on 29th July 2020 organized by Internal Quality Assurance Cell (IQAC), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in association with National Assessment and Accreditation Council (NAAC), Bangalore.
- MBA Department staff staff Prof. Arun Mohgaonkar, Dr. Ajinkya Joshi, Dr. Saroj Dhake, Dr. Shalmali Gadge, Prof. Harshada Rayate & Prof. Amrutha Hippalgaonkar have attended FDP on 'Effective and Efficient Online Teaching and Content Development' from 8/7/2020 and 9/7/2020 organized by Institute of Industrial and Computer Management and Research, Mumbai. Dr. Shalmali Gadge attended FDP on 'Enriching the mind of students through ICT based Learning: Aakriti: Giving Shape’ organized by JSPM's COE Hadpsar, Pune on 4th July 2020 and Prof. Amrutha Hippalgaonkar attended workshop on “NIRF Ranking System” on 3rd July 2020 organized by AVN institute of Engineering and Technology, Ibrahimpatnam.

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■ **Abstracts of papers presented during June-August 2020**

Production planning and scheduling problem of continuous parallel lines with demand uncertainty and different production capacities

Prof. Dr. P. J. Pawar (Production Department)

(Published in international Journal "Journal of Computational Design and Engineering" Oxford press, ISSN: 2288- 5048 online. SCI, Scopus, UGC (IF:3.408))

Abstract: Production planning and scheduling problems are highly interdependent as scheduling provides optimum allocation of resources and planning is an optimum utilization of these allocated resources to serve multiple customers. Researchers have solved production planning and scheduling problems by the sequential method. But, in this case, the solution obtained by the production planning problem may not be feasible for scheduling method. Hence, production planning and scheduling problems must be solved simultaneously. Therefore, in this work, a mathematical model is developed to integrate production planning and scheduling problems. The solution to this integrated planning and scheduling problem is attempted by using a discrete artificial bee colony (DABC) algorithm. To speed up the DABC algorithm, a k -means clustering algorithm is used in the initial population generation phase. This k -means clustering algorithm will help to converge the algorithm in lesser time. A real-life case study of a soap manufacturing industry is presented to demonstrate the effectiveness of the proposed approach. An objective function to minimize overall cost, which comprises the processing cost, material cost, utility cost, and changeover cost, is considered. The results obtained by using DABC algorithm are compared with those obtained by CPLEX software. There is a saving of ₹2 23 324 for weeks 1-4 in overall cost compared with the results obtained by using CPLEX software.

■ **Scenario of Electrical Engineering during and Post COVID-19**

Prof. Dr. R. K. Munje & Prof. Dr. B.E. Kushare (Electrical Department)

(Published a paper in Indian Electrical & Electronics Manufacturers' Association (IEEMA) Journal, ISBN-0970-2946, 31st August 2020, Page no. 28-31)

Abstract: The development of various branches of economy, right from industry to agriculture,

depends greatly on the accessibility and usage of electricity. The pandemic, COVID-19 has not only affected the people's well-being and the country's economy but also has affected the electrical engineering sector. The generation, transmission, and distribution of electricity are vital jobs for the industrial sector and also for the groups of people reliant on the safe and reliable power supply. These groups include people in hospitals, people staying at home, people working from home, kids studying online, etc. As people are staying at home, the usage of electricity by businesses and industries is declining while it is rising in residential and a few commercial areas. Reduction in load is to the tune of 10-20 %. On account of this, the electric grid is experiencing variations in the load patterns. These variations are very well taken care of and an uninterrupted power supply is provided to all by the electric utility companies, which is worth appreciating. However, there are a few more challenges ahead in the electrical engineering sector. This paper provides a review of these challenges.

■ **Sesame (*Sesamum indicum*) oil cake - industrial waste biomass for sequestration of Basic Blue 26 from aqueous media**

Dr. Suyog N. Jain, Vaishnavi B. Garud, Shital D. Dawange, Damini D. Sonawane & Ehrar R. Shaikh (Chemical Department)

Abstract: In the present investigation, the adsorption performance of sesame (*Sesamum indicum*) oil cake, a waste biomass from the oil extraction industry for remediation of Basic Blue 26 (BB 26) from aqueous media was examined. Effects of pH, adsorbent dosage, BB 26 concentration, shaking time temperature, and ionic strength on BB 26 adsorption have been studied in detail. The residual cake was characterized based on FTIR, zeta potential, SEM-EDAX, and BET techniques. Isotherm and kinetic data have been well-exemplified by Freundlich and pseudo second-order equations, respectively. Maximum uptake capacity was reported to increase significantly from 54.52 mg/g for unmodified cake powder to 91.24 mg/g for ZnCl₂-modified cake powder, establishing the importance of ZnCl₂ activation. The mechanism of BB 26 adsorption on cake powder was reported to involve different steps as predicted from the fitting of kinetic data to Weber-Morris equation. Thermodynamic studies showed that the process of BB 26 adsorption onto cake powder was accompanied by an increase in entropy and



reported to be endothermic and spontaneous. Significant recovery and uptake capacity values were reported from the first to the last cycle of reusability. Due to ease of recovery and regenerability, ZnCl₂-modified cake powder has been established as a promising remedy for the successful elimination of BB 26 from aqueous media.

Keywords: Sesame oil cake, Basic Blue 26, Kinetics, Mechanism, Thermodynamics

■ **Role of Internet of Things (IOT) In Pandemic Covid-19 Condition**

Ms. Smita N. Chaudhari, Ms. Shilpa P. Mene, Ms. Rupali M. Bora & Mr. Kiran N. Somavanshi (Information Technology Department)

(Published paper in International Journal of Engineering Research and Applications, Vol. 10, Issue 6– June 2020 ISSN: 2248-9622)

Abstract: Covid-19 disease caused by large family Corona viruses which cause illness in human and some time in animal also. As per WHO, the spread of this virus is so enormous that in a less time it has infected more 46 lakh people and more than 3 lakh death globally. IoT embedded system has variety of application domain one of them is healthcare system. IoT includes sensing of information (Data), transmitting this information over internet and processing of sensed information for further decision. Implementation of IoT healthcare applications provide the real time monitoring of the patient and result in speedy recovery of the patient. It can be effectively used for the prevention and control of COVID-19. IoT applications are well-proven and help to tackle the pandemic COVID19 conditions. In this study, we are discussing the impact of Covid-19 and role of Healthcare IoT applications to overcome or face this pandemic using technology elegantly.

Keywords: Covid-19, IoT, Embedded systems, WHO

■ **A Novel Approach for Improving Quality of Learning Environment in Technical Institutions**

Prof. Dr. Ajinkya S. Joshi, Prof. Dr. Keshav N. Nandurkar and Prof. Dr. Padmakar J. Pawar

(Published paper in Journal of Engineering Education Transformations, Vol. 34, No.1, July 2020 ISSN: 2349-2473, eISSN 2394-1707)

Abstract: The premier regulatory bodies for technical education in India have mandated several services and facilities for the students of technical institutes. These services and facilities not only help in improving the learning environment in an educational institute but also boost the morale of students thereby enhancing the brand image of the institute. In India, the private un-aided technical institutes do not receive any direct financial support from the government for their day to day working. Considering the limited resources at their disposal, the management of the un-aided technical educational institutes may find it difficult to upgrade all services and facilities simultaneously. It is therefore necessary to shortlist services and facilities that need immediate attention and determine the proportion in which the available budget should be utilized for these services and facilities. A two stage survey was designed and opinion of 1090 students was collected through Google Form. Out of the 14 services and facilities extended by the institute, 4 were shortlisted with the help of first survey. Data collected through second survey was used as a basis for determining the values of attributes. TOPSIS method was then employed to prioritize the shortlisted services and facilities. Finally fund allocation was calculated for every attribute. Results indicate that in the opinion of the students, quality of the mess is the most significant issue and necessitate maximum fund allocation. Parking appears to be the least significant issue and hence minimum funds can be allotted for this aspect. The analysis is based on the facilities extended by the institute and opinion of the students. A similar exercise can be extended to any educational institution or organization with suitable modifications. The study is unique and serves as a guideline to the management of private un-aided technical institutions in fund allocation. This study is an attempt to present a novel approach for improving quality of learning environment in un-aided technical institutes.

Keywords: Student facilities; Quality learning environment; Un-aided technical institutes; Multicriteria decision making (MCDM); Weight determination; Fund allocation; AHP; Promethee; Topsis.

Prof. Dr. K. N. Nandurkar
PRINCIPAL

