PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY AND RESEARCH, BADNERA
Internal Quality Assurance Cell

Minutes of IQAC Meeting dated 19 Mar 2022, Scheduled at 12.00 Noon

IQAC meeting within academic year 2021-22 was called for by Chairman, IQAC on the above scheduled date and time to discuss various items on agenda.

Following members of IQAC were present for the scheduled meeting.

1.	Dr. G R Bamnote	Principal (In-charge)
2.	Dr. H M Deshmukh	Dean (Academics)
3.	Dr. N W Kale	Dean (Entrepreneurship)
4.	Dr. N W Ingole	Dean (Research & Consultancy)
5.	Dr. S W Mohod	Dean (Second Shift)
6.	Dr. A U Awate	Member (Teacher Rep.)
7.	Dr. M A Pund	Member (Teacher Rep.)
8.	Prof. S V Dhopte	Member (Teacher Rep.)
9.	Dr. N B Ingle	Member (Teacher Rep.)
10.	Prof. (Ms.) R R Sherekar	Member (Teacher Rep.)
11.	Prof. G D Pachghare	Member (Teacher Rep.)
12.	Mr. M M Darokar	Member (Alumni)
13.	Mr. H S Jadhao	Member (Industry)
14.	Dr. G R Bamnote	Member (Local Society)
15.	Dr. C N Deshmukh	Coordinator, IQAC and Dean (PG Studies)

Dr. G R Bamnote being In-charge Principal on the said date was requested to Chair the meeting as Dr. Amol Bodkhe has communicated his inability to attend the meeting of IQAC. At the outset, the Coordinator, IQAC welcomed all the members present in the meeting and requested the Hon'ble Chairman to commence the business of the meeting of IQAC. The Hon'ble member Prof. (Dr.) H M Deshmukh, Member VYWS and Dr. Amol Bodkhe has communicated their inability to attend the meeting of IQAC. Hence, the House has granted the leave of absence to them. At the start of meeting the Hon'ble Chairman welcomed all the members.

Item No. 1: Confirmation of Minutes of Meeting held on 14 Mar 2020 along with Action Taken Report

i. Result Analysis of Winter 2019 Exams.
Action Taken: The Principal had already advised the concerned HODs to take corrective steps to improve the performance of students in the exams/ subjects discussed during the meeting held on 14 Mar 2020, immediately after the said meeting. He had also advised to counsel the subject teachers.

ii. On-line Mode Classes
Action Taken: The Institute through its IQAC cell had developed the Moodle platform. The Institute had purchased Webex licenses for On-line classes. Also the E-learning cell of IQAC

had integrated the Webex platform with Moodle for better delivery of content and on-line classes. The IQAC has also helped other Institutes and schools within the ambit of VYWS for conduction of on-line classes during the COVID pandemic,

The minutes of the meeting held on 14 Mar 2020 were read item wise along with action taken , by the Coordinator IQAC and the same were approved by the house.

Item No. 2 : Result analysis of exams conducted during COVID pandemic

The house was informed about the conduction of SGB Amravati University term end examinations during COVID-19 pandemic. The results of exams are excellent for all the programs.

Item No. 3 : Vaccination of all students and faculty

The house was informed about the present scenario related to vaccination of all students and faculty. The Chair informed the house that more than 95% of faculty and students have completed two doses of vaccination as a result of Vaccination program conducted within the Institute. Certain students could not be vaccinated owing to health reasons/ doctors advice.

Item No. 4 : Academic Autonomy for Institution

The Chair informed the house that the management has given its consent for filing of documents for grant of autonomous status to the Institute. All the members had healthy discussion of the advantages of Autonomy to student fraternity as well as the faculty. The Chair further instructed the concerned members to gear up for filing the autonomy documents.

Item No. 5 : AQAR filing for AY 2019-20 and AY 2020-21

The Coordinator IQAC informed the house about urgent need for completing and Online filing of the AQAR's post pandemic. The Chair instructed the Coordinator, IQAC to apprise all the departments for completion of the respective formats of AQAR at the earliest. The coordinator also apprised the house about changes in format of AQAR from academic year 2020-21 onwards.

Item No. 6 : Preparation of SSR for NAAC (Cycle-2)

The Coordinator IQAC informed the house that the current NAAC accreditation is valid upto 1st May 2022. He further informed the house about the new SSR format to be followed. The house discussed the new SSR format at length and suggested to assemble the e-copies of various proofs required during e-filing of SSR. The Chair further instructed the Coordinator, IQAC to discuss with all the head of departments for early completion of SSR.

Items with Permission of Chairman:-

Item No. 7 : Attendance of Students in Off-line Classes

Few of the members were of the view that the students should be motivated to attend the classes regularly as the students have been attending on-line classes for the past two years owing to COVID-19 pandemic. The Chair directed the coordinator IQAC to apprise all the departments related to regular attendance in face to face classes and to monitor their attendance.

Item No. 8 : Syllabus Restructuring for higher classes of UG programs

The house was informed by Dean (Academics) of syllabus restructuring for higher classes of UG programs as directed by competent authorities of Sant Gadge Baba Amravati University. The members had healthy discussion on the topic and were of the opinion that the syllabus content should be in-line with AICTE model syllabus. Also the syllabus content should match with the industrial requirements and current trends. The Chair agreed to the suggestion of members and directed Dean (Academics) to convey the same to all head of departments.

As there were no further items to discuss, the meeting ended with vote of thanks to the Chair.

Date: 21 Mar 2022

(Dr. G R Bamnote)
I/C Principal
Chairman, IQAC

(Dr. C N Deshmukh)
Coordinator, IQAC

PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY AND RESEARCH, BADNERA
Internal Quality Assurance Cell

Minutes of IQAC Meeting dated 14 Mar 2020, Scheduled at 1.00 p.m.

An urgent IQAC meeting within academic year 2019-20 was called for by Chairman, IQAC on the above scheduled date and time instead of regular meeting to be held on 21 Mar 2020 due to Lock-down declared owing to Corona Pandemic, to discuss various items on agenda.

Following members of IQAC were present for the scheduled meeting.

1.	Dr. A P Bodkhe	Chairman and Principal
2.	Dr. H M Deshmukh	Dean (Academics)
3.	Dr. N W Kale	Dean (Entrepreneurship)
4.	Dr. N W Ingole	Dean (Research& Consultancy)
5.	Dr. D S Ingole	Dean (Administration)
6.	Dr. S W Mohod	Dean (Second Shift)
7.	Dr. A U Awate	Member (Teacher Rep.)
8.	Dr. M A Pund	Member (Teacher Rep.)
9.	Prof. S G Adhau	Member (Teacher Rep.)
10.	Prof. S V Dhopte	Member (Teacher Rep.)
11.	Dr. N B Ingle	Member (Teacher Rep.)
12.	Prof. (Ms.) R R Sherekar	Member (Teacher Rep.)
13.	Prof. G D Pachghare	Member (Teacher Rep.)
14.	Dr. G R Bamnote	Member (Local Society)
15.	Dr. C N Deshmukh	Coordinator, IQAC and Dean (PG Studies)

The Coordinator, IQAC welcomed the Hon'ble Chairman and the members present in the meeting and requested the Hon'ble Chairman permission to commence the business of the meeting of IQAC. As it was an urgent meeting few members could not attend the above meeting of IQAC. At the start of meeting the Hon'ble Chairman welcomed all the members and kept the members abreast with the current scenario due to lock down declared by Government.

Item No 1 :-To approve the minutes of meeting of IQAC meeting held on 21st September 2019 along with action taken report on issues related to the meeting

i. Result analysis of Summer-2019 Exams

Action Taken: In its previous meeting the house had expressed its concern towards results of Sem IV of EXTC and Sem II of MBA. The Principal had asked the Head of respective departments to investigate the below par performance and report back to him. The HoDs had informed the Principal that they have interacted with the concerned students and faculty to determine the reason for such performance. Remedial for certain courses classes were suggested and the concerned faculty were also advised to improve their performances by using suitable teaching pedagogy.

ii. Up-gradation of Moodle Platform for the Institute

Action Taken: Up-gradation of Moodle platform for all the departments is completed and the concerned departmental coordinators have been trained on usage of this platform.

iii. Review of placements during AY 2018-19 and progress of Training Activities for improvement in Campus Recruitment

Action Taken: The brush-up training session for all final year students is completed. The Placements until now have proved the importance of this classes. Also the placement activities are still continuing and the final placements will be available in due course of time. Further CRT training for third year students and soft skill training for second year students is completed.

iv. MoU with NASSCOM for imparting Future Skills

Action Taken: The MoU for imparting on-line future skill was signed between NASSCOM and VYWS society. About 1000 students and faculty of PRMIT&R, Badnera; PRMCEAM, Badnera and VYWS Polytechnic were on-boarded for this on-line future skills program. Our institute has on-boarded around 590 students and faculty for this program which provides on-line training resources in the areas of AI, Machine Learning, 3D printing, Mobile Communication, Cyber Security, IoT etc. The participants are free to select any area of his choice and are alloted both short term and long term courses. Certain courses have provision for certification and/ or badges,

v. Participation of faculty in Curriculum development with reference to Model AICTE syllabus for UG courses

Action Taken: Faculty from various departments have contributed towards curriculum development of second, third and final year classes as per Model AICTE curriculum. The respective BoS will suggest a final scheme for curriculum to the Academic Council before the start of next academic year. The approved scheme will be implemented from AY 2020-21 onwards in a progressive manner.

Item No. 2:- Result analysis of Winter-2019 Exams

The detail result analysis was put forward to the house by Dean (Academics) for the Winter 2019 exams. The house expressed its satisfaction over the results except for a few classes of certain UG program. Certain members drew the attention of the house towards below par performance in respect of Sem III (Mech and EXTC) and Sem-I (MBA). The house unanimously requested the Principal to look into the matter and suggest remedial measures.

Item No.3:- Conduction of regular classes in on-line mode during lock-down period.

The Chairman of the IQAC apprised the house about the present scenario of COVID pandemic and the decision taken by the state Government to completely Lock-down all educational institutes in the state with effect from 15 March 2020. The Chair requested the members to suggest suitable measures so that the academic tasks are not hampered. The Coordinator, IQAC informed the house that the Moodle platform will be of immense help as all learning material (PPTs, Short Videos, Notes etc.) is already uploaded for students of respective classes of each department. Few members suggested that applications such as CISCO Webex, Zoom, Microsoft Team etc. can be used for provisioning and delivering on-line lectures. The house also discussed issues such as availability of Internet facilities, Smart Phones etc. which students/ faculty might face while attending/ delivering on-line lectures. Certain members suggested to purchase the licenses for such applications. Considering the gravity of situation the chair suggested that the lectures will be delivered in on-line mode by using free applications such as Webex, Zoom etc. He also suggested that the concerned faculty will convey the meeting links to the students before start of lecture so that he/ she can engage the lecture. The house agreed to this suggestion. One of the members raised concern regarding conduction of practicals in on-line mode. The coordinator, IQAC brought to the notice of the house that lot of virtual labs are available and the details have been provided by AICTE in its model curriculum. Dr. D S Ingole and Dr M A Pund also elaborated on the concept of virtual labs. The house suggested that the concerned Head of Departments should look into it and conduct practicals in Virtual mode for the courses for which virtual labs are available. The Chair and members agreed to this proposal.

As there were no further items to discuss, the meeting ended with vote of thanks to the Chair.

Date: 30 Mar 2020

(Dr. C N Deshmukh)
Coordinator, IQAC

(Dr. A P Bodkhe)
Chairman, IQAC

PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY AND RESEARCH, BADNERA
Internal Quality Assurance Cell

Minutes of IQAC Meeting dated 21 Sep 2019, Scheduled at 1.00 p.m.

IQAC meeting for the academic year 2019-20 was called for by Chairman, IQAC on the above date and time as mentioned above, to discuss various items on agenda.

Following members of IQAC were present for the scheduled meeting.

1. Dr. A P Bodkhe	Chairman and Principal
2. Dr. H M Deshmukh	Dean (Academics)
3. Dr. N W Kale	Dean (Entrepreneurship)
4. Dr. N W Ingole	Dean (Research & Consultancy)
5. Dr. D S Ingole	Dean (Administration)
6. Dr. S W Mohod	Dean (Second Shift)
7. Dr. A U Awate	Member (Teacher Rep.)
8. Dr. M A Pund	Member (Teacher Rep.)
9. Prof. S G Adhau	Member (Teacher Rep.)
10. Prof. S V Dhopte	Member (Teacher Rep.)
11. Dr. N B Ingle	Member (Teacher Rep.)
12. Prof. (Ms.) R R Sherekar	Member (Teacher Rep.)
13. Prof. G D Pachghare	Member (Teacher Rep.)
14. Mr. M M Darokar	Member (Alumni)
15. Dr. G R Bamnote	Member (Local Society)
16. Dr. C N Deshmukh	Coordinator, IQAC and Dean (PG Studies)

At the outset, the Coordinator, IQAC welcomed the Hon'ble Chairman and the members present in the meeting and requested the Hon'ble Chairman to commence the business of the meeting of IQAC. The Hon'ble member Prof. (Dr.) H M Deshmukh, Dr. T R Deshmukh and Mr. H S Jadhao have communicated their inability to attend the meeting of IQAC. Hence, the House has granted the leave of absence to them. At the start of meeting the Hon'ble Chairman welcomed all the members.

Item No. 1: Confirmation of Minutes of Meeting held on 23 March 2019 along with Action Taken Report.

i. Result analysis of Winter-2018 Exams

Action Taken: During the previous meeting the house had expressed concern over results of lower semesters of certain programs. The house had requested the Principal to investigate the

below par performance. During course of investigation it was found that in two branches few question papers had higher difficulty level as compared to the question papers of previous years resulting in below par performance. However, the Principal instructed the Heads to prepare the students for such situations. In other cases the respective HoDs have called for explanation from the concerned faculty in view of the poor results in certain courses.

ii. On-boarding to NASSCOM Future Skills Platform

Action Taken: The proposal for signing MoU with NASSCOM for providing Future Skills Program was submitted to the VYWS Society. The society in turn suggested that the MoU be signed at Society level so that other institute within the society will also get benefitted due to it. The IQAC coordinator is in communication with the NASSCOM authorities to sign the MoU and start the on-boarding process at the earliest.

iii. Avishkar, Innovation, Incubation and Start Up

Action Taken: One team of the Institute selected by SGB Amravati University was further trained for participating in state level Innovation, Incubation and Start Up competition at Gadchiroli, whereas another team that was selected for incubation was provided with appropriate guidance.

iv. Model AICTE syllabus for UG courses

Action Taken: As per guidelines of AICTE and SGB Amravati University the first year scheme and curriculum was framed and implemented from academic year 2019-20. Faculty of first year engineering department participated in the curriculum development.

v. Academic Autonomy for Institution

Action Taken: A detail presentation regarding autonomy was given to the management of the VYWS society. The Chairman of the society informed the Autonomy Committee that decision regarding Autonomy will be given in due course of time after studying the submitted report in detail.

vi. Conduction of CRT

Action Taken: Campus Recruitment Training (CRT) was conducted for third year students. Similarly brush up training was conducted for final year students. The students of second year were given training related to Soft skills and communication skills.

Item No. 2: Result analysis of Summer-2019 Exams

A detailed review of Result Analysis for SGB Amravati University Summer-2019 Exams was taken. The house in general expressed satisfaction over the results. However, the house expressed its concern over results of Sem IV (EXTC) and Sem II (MBA). Also the members pointed towards slight downward trend in results of Sem IV (Mech and IT). The house suggested that the Principal along with the concerned HoDs should take review of these results and plan suitable action at the earliest.

Item No. 3: Up-gradation of Moodle Platform for the Institute

The house was informed by Coordinator, IQAC that the existing moodle platform has been upgraded to improve the LMS platform. This up-gradation has been carried out for all the departments including the First year engineering department. This upgraded platform provides additional features such as on-line grading of assignment, better provision for conducting MCQ based test etc.

Item No. 4: Review of placements during AY 2018-19 and progress of Training Activities for improvement in Campus Recruitment

Certain members of the house inquired about the placement scenario in AY 208-19. The house was informed by Dean(Academics) and Coordinator, IQAC that the placement during the AY 2018-19 (488) has showed a marked improvement over AY 2017-18 (318). Similarly the members in the house were informed that brush-up session was conducted for students of final year engineering for the current AY 2019-20. Similarly, the Aptitude sessions for Third year engineering students and Soft skills sessions for second year students will be conducted in Dec-Jan 2020. The house was of the opinion that the imparted skills will have positive impact on the placement scenario.

Item No. 5: MoU with NASSCOM for imparting Future Skills

The house was informed by the coordinator, IQAC that the MoU process is in progress and will be completed at the earliest. The house was also informed that the VYWS society has nominated Coordinator at Society level, to facilitate and monitor all activities related to NASSCOM future skills program. The house was once again apprised of the various on-line courses covered under the ambit of NASSCOM Future skills program. The society has opted for on boarding at least 1000 students and faculty for this courses. The on-boarding process will start immediately after the signing of MoU. The members of the house were of the opinion that such courses will help in improving the skill sets of students and indirectly help them in placement and / or for pursuing higher studies.
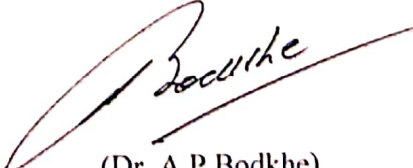
Item No. 6: Participation of faculty in Curriculum development with reference to Model AICTE syllabus for UG courses

The house was informed by Dean (Academics) that first year syllabus as per Model AICTE syllabus scheme for all branches (UG programs) was implemented during AY 2019-20. He further elaborated on the facts of Model AICTE syllabus scheme. He informed the house that about the newly introduced induction program for first year students. The members of house inquired about the scheme for higher classes. Dean (Academics) informed the house that the scheme for all higher UG classes (all branches) will be prepared by respective BoS and will be available before the start of next academic year for progressive implementation. The scheme will be adhering to Choice Based Credit System (CBCS) and will consist of open electives, professional electives, audit (non-credit) courses etc. The house requested the chair to convey to the entire department heads to ensure participation of faculty in curriculum development so as to ensure quality outcomes.

As there were no further items to discuss, the meeting ended with vote of thanks to the Chair.

Date: 28 Sep 2019

(Dr. C N Deshmukh)
Coordinator, IQAC

(Dr. A P Bodkhe)
Chairman, IQAC

PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY AND RESEARCH, BADNERA
Internal Quality Assurance Cell

Minutes of IQAC Meeting dated 23 Mar 2019, Scheduled at 12.00 Noon

IQAC meeting within academic year 2018-19 was called for by Chairman, IQAC on the above scheduled date and time to discuss various items on agenda.

Following members of IQAC were present for the scheduled meeting.

1.	Dr. A P Bodkhe	Chairman and Principal
2.	Dr. H M Deshmukh	Dean (Academics)
4.	Dr. N W Kale	Dean (Entrepreneurship)
5.	Dr. N W Ingole	Dean (Research & Consultancy)
6.	Dr. T R Deshmukh	Dean (T&P)
7.	Dr. D S Ingole	Dean (Administration)
8.	Dr. S W Mohod	Dean (Second Shift)
9.	Dr. A U Awate	Member (Teacher Rep.)
10.	Dr. M A Pund	Member (Teacher Rep.)
11.	Prof. S G Adhau	Member (Teacher Rep.)
12.	Prof. S V Dhopte	Member (Teacher Rep.)
13.	Dr. N B Ingle	Member (Teacher Rep.)
14.	Prof. (Ms.) R R Sherekar	Member (Teacher Rep.)
15.	Prof. G D Pachghare	Member (Teacher Rep.)
15.	Mr. M M Darokar	Member (Alumni)
17.	Mr. H S Jadhao	Member (Industry)
17.	Dr. G R Bamnote	Member (Local Society)
18.	Dr. C N Deshmukh	Coordinator, IQAC and Dean (PG Studies)

At the outset, the Coordinator, IQAC welcomed the Hon'ble Chairman and the members present in the meeting and requested the Hon'ble Chairman to commence the business of the meeting of IQAC. The Hon'ble member Prof. (Dr.) H M Deshmukh, Member VYWS has communicated his inability to attend the meeting of IQAC. Hence, the House has granted the leave of absence to him. At the start of meeting the Hon'ble Chairman welcomed all the members.

Item No. 1: Confirmation of Minutes of Meeting held on 22 Sep 2018 along with Action Taken Report

i. Result Analysis of Summer 2018 Exams.

Action Taken: The Principal advised the concerned HODs to take corrective steps to improve the performance of students in the subjects having poor results for BE(Comp) Semester VI, BE(EXTC) Semester IV, BE(IT) Semester IV, BE(IT) Semester VI and MBA Semester II programs by counseling the concerned subject teachers. Similarly, the Principal also informed the respective HoDs to call for explanation from the concerned faculty in view of the poor results in certain courses.

ii. Development of Moodle Platform for the Institute

Action Taken: A full fledged Moodle platform was developed and launched for providing E-leaning benefits to the student. All the faculties were trained in the use of this platform. All the students were made aware of the Moodle App available for this platform so that they can avail the E-learning facility using their Smart Phones.

iii. Information about Business Incubation Center

Action Taken: All the departmental faculty and students were made aware of existence of such center within the institute. The students were also advised to avail this facility to become budding Entrepreneurs.

The minutes of the meeting held on 22 Sep 2018 were read item wise along with action taken , by the Coordinator IQAC and the same were approved by the house.

Item No. 2 : Result analysis of Winter 2018 Exams

The house expressed concern over results of BE (Mech) Semester III, BE (Comp) Semester III, BE (IT) Semester III, BE (IT) Semester VII, MBA Semester I and MBA Semester III programs. The house requested the Principal to investigate the poor performance in certain subjects and take corrective action at the earliest.

Item No. 3 : On-boarding to NASSCOM Future Skills Platform

The house was informed by Coordinator, IQAC that this platform is the largest Industry led initiative in India, supported by all NASSCOM member companies, for imparting Future Skills to the faculty as well as students. A core group of companies have been a part of the working group consisting of Wipro, Infosys, Cognizant, Google, Amazon, Oracle, Adobe, IBM, Tech Mahindra, Accenture, Genpact, MindTree, TCS, and many more. A Special Interest Group of companies and subject matter experts have contributed to the content and modules on the platform.

The platform provides on-line AI curated contents to the users in the area of Artificial Intelligence and Machine Learning, Big Data Analytics, Cyber Security, 3-D Printing, Mobile Communications, Internet of Things, Virtual Reality and Robotic Process Automation. The platform provides Smart Cards, Pathways for learning, developed courses of short & long duration and Virtual labs. The platform also provides rewards in terms of Badges &/ or certificates on successful completion of courses.

The platform has free as well as paid courses from national and international agencies. NASSCOM also provides Qualification packs depending on the job roles for the students to seek employment. The use of platform will help the faculty in widening their knowledge base and also help students in terms of employability.

The house was happy to know that such a platform exists and advised the Coordinator, IQAC to liaise with NASSCOM to on-board this platform.

Item No. 4 : Information related to Avishkar, Innovation, Incubation and Start Up

The Coordinator, IQAC apprised the house about participation of teams in the Sant Gadge Baba Amravati University Avishkar Competition and Start Up & Incubation Festival, as it was opined by the house in one of its previous meetings. He further elaborated that two groups (One from Mechanical Engg. And Other from EXTC Engg.) were declared winners in Agriculture category and Social Category respectively. He further informed that these groups have also qualified for participating in State level Competition to be held at Gondwana University, Gadchiroli. Similarly he also apprised the house about participation of student groups/ individuals in the Start Up and Incubation Festival to be held on 25th and 26th Mar 2019.

The house unanimously congratulated all the winners of Aviskar Competition and conveyed their best wishes for students participating in Start Up festival. The august house also appreciated the efforts of all the concerned agencies.

Item No. 5 : Information related to Model AICTE syllabus for UG courses

The house was informed by Coordinator, IQAC and Dean (Academics) about the Model AICTE Curriculum. As per AICTE the development of an outcome based Model Curriculum for Undergraduate degree courses in Engineering & Technology is a result of thoughtful deliberations at various stages of dedicated and specialized experts. This model curriculum has been framed to meet the expectations of an academically challenging environment, develop problem solving skills by students, align with current standards and to enrich the students learning to make them self-enablers and/or match job requirements on successful completion of their degree. A novel concept of Virtual Labs. has been introduced in the Model curriculum to provide remote-access to Labs in various disciplines of Science and Engineering.

Salient features of this model curriculum are enumerated below:

i. Induction program has been made a part of this Model Curriculum.

ii. Model Curriculum has been designed in such a way that it encourages innovation and research as total number of credits have been reduced and many new courses have been incorporated in consultation with industry experts.

iii. The revised Model Curriculum has been designed where the students can understand the industry requirements and have hands-on experience. The students will develop a problem solving approach and will be able to meet the challenges of future.

iv. AICTE has compiled a common first year scheme and syllabi for engineering disciplines, the concerned Institution/ University may adjust the scheme and courses as per the requirement of particular Institute and local needs. However, the total credit structure of 160 credits should not be disturbed. The institutions/ universities in India are requested to adopt this "Model Curriculum" for various undergraduate degree engineering disciplines.

v. Courses on Constitution of India, Environment Science/Engg. and Essence of

Indian Traditional Knowledge have also been included in the Curriculum.

vi. A novel concept of Virtual laboratories has been introduced in the model curriculum.

vii. Curriculum on Entrepreneurship is included to support AICTE's start-up policy.

viii. In some disciplines, courses have been mentioned in the scheme, it is left to the University/Institution to frame the detailed syllabus as per their need or can find the same in AICTE model curriculum of some other disciplines in this booklet.

ix. AICTE will ensure the revision of the model curriculum on regular basis and this updated syllabus will certainly help students to achieve better employability; start-ups and other avenues for higher studies.

The house was of the opinion that the Institute in consultation with all the HoDs should approach various Board of Studies of Sant Gadge Baba Amravati University for the implementation of this curriculum, so that the students will be benefited.

Item No. 6 : Academic Autonomy for Institution

The Chair apprised the house about the Report on Academic Autonomy for Institution being submitted to the Management of Vidarbha Youth welfare Society, Amravati. He informed the house that a committee constituting of six senior faculties was formed to prepare a report on feasibility of autonomy and to suggest added requirements such as infrastructure, additional teaching and non teaching staff, Laboratory equipments etc. The committee after due consultations with th Heads and faculty of various department have prepared a report. He further elaborated that the curriculum scheme to be implemented also forms the part of the report. The house appreciated the need for autonomy and suggested that further discussion on it will be done after finalization of the autonomy by the VYWS Management.

Items with Permission of Chairman:-

Item No. 7 : Start of Academic Session and conduction of CRT
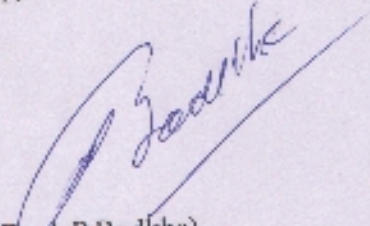
The Coordinator, IQAC and Dean (Academics) informed the house that next academic session (Winter-2019) shall commence from 10 June 2019. It was decided to start the teaching schedule for Winter 2019 session (BE/ ME courses) from 24 June 2019. Dean (T&P) apprised the house about Campus Recruitment training program to be conducted for final year students. The house was of the opinion that the schedule for Campus Recruitment Training (10 days) for BE Semester VII students should start from 17 June 2019 so that it does not interfere with academic session. The Chair instructed Dean (T&P) to schedule the Campus Recruitment Training accordingly.
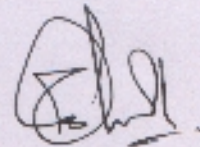
Item No. 8 : Research Grants

Dean (Research & Consultancy) informed the house about various grants received from AICTE for conducting Short Term Training Program, MODROBS and under RPS scheme. The house inquired about the purpose of grants and its utilization for development work. The house also appreciated the efforts of all concerned for fetching the grants.

As there were no further items to discuss, the meeting ended with vote of thanks to the Chair.

Date: 03 Apr 2019

(Dr. A P Bodkhe)
Chairman, IQAC

(Dr. C N Deshmukh)
Coordinator, IQAC

PROF. RAM MEGHE INSTITUTE OF TECHNOLOGY AND RESEARCH, BADNERA
Internal Quality Assurance Cell

Minutes of IQAC Meeting dated 22 Sep 2018, Scheduled at 12.00 Noon

A first IQAC meeting for academic year 2018-19 was called for by Chairman, IQAC on the above scheduled date and time to discuss various items on agenda.

Following members of IQAC were present for the scheduled meeting.

1. Dr. A P Bodkhe	Chairman and Principal
2. Dr. Prof. H M Deshmukh	Member, VYWS
3. Dr. H M Deshmukh	Dean (Academics)
4. Dr. N W Kale	Dean (Entrepreneurship)
5. Dr. N W Ingole	Dean (Research & Consultancy)
6. Dr. T R Deshmukh	Dean (T&P)
7. Dr. D S Ingole	Dean (Administration)
8. Dr. S W Mohod	Dean (Second Shift)
9. Dr. A U Awate	Member (Teacher Rep.)
10. Dr. M A Pund	Member (Teacher Rep.)
11. Prof. S G Adhau	Member (Teacher Rep.)
12. Prof. S V Dhopte	Member (Teacher Rep.)
13. Dr. N B Ingle	Member (Teacher Rep.)
14. Prof. (Ms.) R R Sherekar	Member (Teacher Rep.)
15. Mr. M M Darokar	Member (Alumni)
16. Dr. G R Bamnote	Member (Local Society)
17. Dr. C N Deshmukh	Coordinator, IQAC and Dean (PG Studies)

At the outset, the Coordinator, IQAC welcomed the Hon'ble Chairman and the members present in the meeting and requested the Hon'ble Chairman to commence the business of the meeting of IQAC. The Hon'ble members Mr. H S Jadhao and Prof. S G Pethe have communicated their inability to attend the meeting of I.Q.A.C. Hence, the House has granted the leave of absence to them. The Hon'ble Chairman also welcomed all the members.

Item No. 1: Confirmation of Minutes of Meeting held on 17 Mar 2018 along with Action Taken Report

i. Involvement of students for imparting quality education from their perspective.
Action Taken: In its meeting held on 17 Mar 2018 the house resolved to conduct a poster competition for students so as to understand the aspect of quality education from students perspective. A poster Competition was held on 15 Sep 2018 and the theme of the competition was " Academic Quality: A Student's Perspective".

ii. Result Analysis of Winter 2017 Exams
Action Taken: As the house had expressed concern over results of B.E. (EXTC) Semester III, and MBA Semester I programs. House also had expressed concern over fall in ranking of PRMITR in comparative institute wise results for few courses. The Principal advised the

concerned HODs to take corrective steps to improve the performance of students in the subjects having poor results by counseling the concerned subject teachers. Similarly, the Principal also informed the respective HoDs to call for explanation from the concerned f aculty in view of the poor results in certain courses. The Principal has also advised the HoDs to groom students from second year level, so that they not only excel in academics but also showcase their talent in co-curricular and extra curricular activities.

iii. Finalization of revised Academic and Administrative Audit Report

Action Taken: The finalized AAA Report was approved by the house. The report was forwarded to all the HOD's for its implementation from AY 2018-19. Further it was directed that the Academic and Administrative Audit for AY 2017-18 should be done using the revised format.

iv. Improvement in Research and Development activities, Co-curricular activities, Consultancy etc. in respect of all departments.

Action Taken: The members though appreciated the present efforts were of the opinion to increase this activities along with involvement of students. The Chair directed all the Heads to ensure active participation of students and faculty in these activities. It was decided to apply for various Government research schemes like AICTE MODROBS, RPS, etc., DST Schemes, SERB schemes to improvise research participation. Similarly the students participation in SGBAU "Avishkar", Hackathons and other Project competitions should be encouraged.

v. To discuss the revised Assessment and Accreditation framework for Universities of NAAC, Bangalore

Action Taken: The house has gone through the details submitted by IQAC regarding the revised Assessment and Accreditation framework for Universities of NAAC, Bangalore. The house directed to send few faculties for attending two days workshop on NAAC Accreditation Awareness to be held in April 2018 by SGB Amravati University, as per the new guidelines of NAAC.

vi. On-line Student Feedback Format:

Action Taken: The Principal instructed Dean (Academics) to include feedback related to Practical performance in addition to theory. He also instructed the Dean (Academics) to design a customized feedback for MBA in consultation with the PG Department of Management Studies

Items with Permission of Chairman:-

vii. To discuss activities conducted under various MoU signed by Institute / Departments

Action Taken: The house had discussions over different activities conducted under MoU such as Seminars, Guest Lectures, Workshops, Training Programs, Internship etc. The house resolved that quality of activities conducted should be maintained. Similarly participation of students in such activities should be enhanced

viii. Development of E-learning Platform:

Action Taken: Dr. M A Pund had brought to the notice of the house that a E-learning platform is required to be developed to assist the students in their academic development. The house was in total agreement with the suggestion and had directed to start development of the platform using in-house resources. The E-learning platform was launched on trial basis in June 2018.

The minutes of the meeting held on 17 Mar 2018 were read item wise along with action taken , by the Coordinator IQAC and the same were approved by the house.

Item No. 2 : Result Analysis of Summer 2018 Exams

A detailed review of Result Analysis for SGB Amravati University Summer-2018 Exams was taken. The house in general expressed satisfaction over the results. However, the house expressed its concern over results of BE(Comp) Semester VI , BE(EXTC) Semester IV, BE(IT) Semester IV, BE(IT) Semester VI and MBA Semester II course. House also expressed concern over fall in ranking of PRMITR for few courses while undertaking institute wise comparison of results. The house suggested that the Principal along with the concerned HoDs should take review of these results and plan suitable action at the earliest.

Item No. 3 : Information related to success of Poster Presentation contest

The house was informed by the Coordinator, IQAC that a poster competition was announced in the month of Aug 2018 for all students of PRMITR and Competition was held on 15 Sep 2018.The theme of the competition was " Academic Quality: A Student's Perspective". Around 150 students participated in the contest. Three cash prizes totally worth Rs. 10,000/- were distributed to the winners.

Item No. 4 : Development of Moodle Platform for the Institute

The house was informed by Dr M A Pund and Coordinator IQAC that an online learning platform MOODLE was created for the benefit of students. The Moodle platform was created with an aim to enhance the technical skills and topic coverage of the students by introducing them to the Self-learning mode wherein the students shall refer the study materials posted by the teacher. The Moodle is an e-learning facility where the students can actively participate in various activities like Assignment, Quiz etc. As the house was in agreement with the need of such platform it appreciated the efforts taken by the concerned faculty in developing the platform and launching it for benefit of students.

Item No. 5 : Information about Business Incubation Center

The house was informed by Dr A U Awate that, for addressing the increase in the potential of startups, PRMITR's Business Incubation Center (BIC) was established in AY 2017-18 under the sponsorship by the Ministry of Micro, Small and Medium Enterprises (MSME), Govt. of India,New Delhi. The objective of the incubation center is simple - to inspire and work with aspiring entrepreneurs to shape up business ideas into commercial start-up companies.

Under the guidance of diligent and experienced faculty, candidates learn the dynamic process of business development and how to survive in their early stage. In addition, the institutions also provide infrastructural support i.e. office space, meeting room to the candidates. At every step, the individuals are mentored and nurtured for their acquiescent
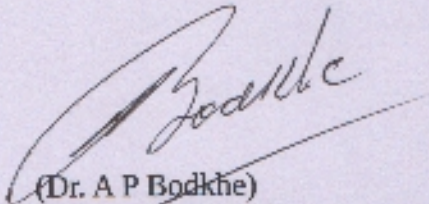
business ideas. The Objectives of this center are

1. Business and technical mentoring by the in-house-faculty and industry experts.
2. Coordinating and providing hands-on training to introduce candidates with industry interface.
3. Organizing activities/seminars/events/lectures to promote and support the entrepreneurial spirit of the candidates.
4. Providing fund raising assistance.
5. Close monitoring and feedback to the candidates on their market research and business planning for successful implementation.

Dr. A U Awate requested the house to promote this center amongst students and faculty of the institute.

As there were no further items to discuss, the meeting ended with vote of thanks to the Chair.

Date: 30 Sep 2018

(Dr. A P Bodkhe)
Chairman, IQAC

(Dr. C N Deshmukh)
Coordinator, IQAC

NATIONAL BOARD OF ACCREDITATION

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Website: www.nbaind.org

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S-11-2020

NATIONAL BOARD
of ACCREDITATION

F. No. 28-305-2010-NBA

Date: - 13-10-2020

To,

The Principal
Prof. Ram Meghe Institute of Technology and Research,
Anjangaon Bari Road,
Badnera, Amravati,
Maharashtra-444701

Subject: Grant of accreditation of one year in case of UG Engineering programs in Tier II offered by Prof. Ram Meghe Institute of Technology and Research, Anjangaon Bari Road, Badnera, Amravati, Maharashtra-444701 on the basis of Compliance Report.

Sir,

This is regarding Compliance Reports submitted by **Prof. Ram Meghe Institute of Technology and Research, Anjangaon Bari Road, Badnera, Amravati, Maharashtra-444701** for the UG Engineering programs in whose case the accreditation of 6 years in Tier II has expired on 30.06.2020.

2. The National Board of Accreditation (NBA) has decided that in all cases of UG Engineering programs which were accredited in Tier I/Tier II first for a period of 3 years upto 30/06/2017 and were further accredited for a period of 3 years upto 30/06/2020 on the basis of Compliance Reports and whose applications for accreditation beyond 30/06/2020 are pending or could not apply due to the current situation arising out of the pandemic caused by the Corona virus, the programs will be considered for accreditation of one year after expiry of the validity of accreditation on 30-06-2020 on the basis of Compliance Reports. The data submitted by **Prof. Ram Meghe Institute of Technology and Research, Anjangaon Bari Road, Badnera, Amravati, Maharashtra-444701** in the Compliance Reports have been examined and verified in NBA. Based on the same, the Competent Authority in NBA has approved the following accreditation status to the programs as given in the Table below:

Sl. No.	Name of the Program(s) (UG)	Basis of Evaluation	Accreditation Status	Period of validity	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1.	Mechanical Engineering	Tier-II	Accredited	Academic Year 2020-2021 i.e. upto 30-06-2021	Accreditation status granted is valid for the period indicated in Col.5 or till the program has the approval of the competent authority, whichever is earlier.
2.	Electronics & Telecommunication Engineering		Accredited		
3.	Civil Engineering		Accredited		

3. It may be noted that only students who graduate during the validity period of accreditation, will be deemed to have graduated with an NBA accredited degree.

4. The programs have been granted extension of duration of accreditation for one year. **Prof. Ram Meghe Institute of Technology and Research, Anjangaon Bari Road, Badnera, Amravati, Maharashtra-444701** is requested to apply afresh for accreditation of the programs at least five months before the expiry of validity of accreditation.
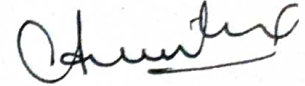
5. The accreditation status awarded to the programs as indicated in the above table does not imply that the accreditation has been granted to **Prof. Ram Meghe Institute of Technology and Research, Anjangaon Bari Road, Badnera, Amravati, Maharashtra-444701** as a whole. As such the Institution should nowhere along with its name including on its letter head etc. write that it is accredited by NBA because it is program accreditation and not Institution accreditation. If such an instance comes to NBA's notice, this will be viewed seriously. Complete name of the program(s) accredited, level of program(s) and the period of validity of accreditation, as well as the Academic Year from which the accreditation is effective should be mentioned unambiguously whenever and wherever it is required to indicate the status of accreditation by NBA.

6.   The accreditation status of the above programs is subject to change on periodic review, if needed by the NBA. It is desired that the relevant information in respect of accredited programs as indicated in the table in paragraph 2, appears on the website and information bulletin of the Institute.

7.   The accreditation status awarded to the programs as indicated in table in paragraph 2 above is subject to maintenance of the current standards during the period of accreditation. If there are any changes in the status (major changes of faculty strength, organizational structure etc.), the same are required to be communicated to the NBA, with an appropriate explanatory note.

Yours faithfully,

(Dr. Anil Kumar Nassa)
Member Secretary

Copy to:

1. The Director of Technical Education
   3, Mahapalika Marg
   Opp. Metro Cinema
   Chhatrapati Shivaji Terminus Area,
   Mumbai, Maharashtra-400001

2. The Registrar
   Sant Gadge Baba Amravati University,
   Camp Area, Near Tapovan Gate,
   Amarvati, Maharashtra- 444602

3. Accreditation File

4. Master Accreditation file of the State

National Institutional Ranking Framework
Ministry of Education
Government of India

India Rankings 2022: Engineering (Rank-band: 251-300)

Institution list in alphabetical order

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Name	City	State
ABES Engineering College	Ghaziabad	Uttar Pradesh
Academy of Maritime Education and Training	Kancheepuram	Tamil Nadu
Alliance University	Bengaluru	Karnataka
Anil Neerukonda Institute of Technology & Sciences	Visakhapatnam	Andhra Pradesh
B I T Sindri	Dhanbad	Jharkhand
Basaveshwar Engineering College	Bagalkot	Karnataka
CMR Engineering College	Rangareddy	Telangana
Dr. D. Y. Patil Educational Enterprises Charitable Trust`s Dr. D. Y. Patil Group of Institutions Dr. D. Y. Patil School of Engineering	Pune	Maharashtra
E.G.S. Pillay Engineering College	Nagapattinam	Tamil Nadu
G. B. Pant Government Engineering College	Delhi	Delhi
G. Narayanamma Institute of Technology & Science for Women	Hyderabad	Telangana
G. Pulla Reddy Engineering College	Kurnool	Andhra Pradesh
Gandhi Institute of Engineering and Technology	Gunupur	Odisha
Gayatri Vidya Parishad College of Engineering	Visakhapatnam	Andhra Pradesh
Gogte Institute of Technology, Belgaum	Belagavi	Karnataka

Name	City	State
Haldia Institute of Technology	Haldia	West Bengal
Integral University	Lucknow	Uttar Pradesh
JSPM`S Rajarshi Shahu College of Engineering	Pune	Maharashtra
JSS Academy Of Technical Education, Noida	Gautam Budh Nagar	Uttar Pradesh
K. J. Somaiya College of Engineering	Mumbai	Maharashtra
K. Ramakrishnan College of Engineering	Samayapuram	Tamil Nadu
Kalaignar Karunanidhi Institute of Technology	Coimbatore	Tamil Nadu
Karpagam College of Engineering	Coimbatore	Tamil Nadu
Kurukshetra University	Kurukshetra	Haryana
Lakireddy Bali Reddy College of Engineering	Mylavaram	Andhra Pradesh
Lakshmi Narain College of Technology	Bhopal	Madhya Pradesh
Laxminarayan Institute of Technology	Nagpur	Maharashtra
Madan Mohan Malaviya University of Technology	Gorakhpur	Uttar Pradesh
Madanapalle Institute of Technology & Science	Madanapalle	Andhra Pradesh
Mahatma Gandhi Institute of Technology	Hyderabad	Telangana
Malla Reddy College of Engineering and Technology (Autonomous)	Secunderabad	Telangana
Manav Rachna University	Faridabad	Haryana
Muthoot Institute of Technology and Science	Puthencruz	Kerala
Narasaraopeta Engineering College	Narasaraopet	Andhra Pradesh
National Institute of Technology Andhra Pradesh	Tadepalligudem	Andhra Pradesh
Pimpri Chinchwad College of Engineering	Pune	Maharashtra
Prof. Ram Meghe Institute of Technology & Research	Badnera Amravati	Maharashtra
QIS College of Engineering & Technology	Ongole	Andhra Pradesh

Name	City	State
Rajiv Gandhi Proudyogiki Vishwavidyalaya	Bhopal	Madhya Pradesh
Ramrao Adik Institute of Technology	Navi Mumbai	Maharashtra
S. D. M. College of Engineering & Technology	Dharwad	Karnataka
Sagi Ramakrishnam Raju Engineering College	Bhimavaram	Andhra Pradesh
Siddhartha Institute of Technology & Science	Hyderabad	Telangana
Sri Guru Granth Sahib World University	Fatehgarh Sahib	Punjab
Sri Venkateswara University	Tirupati	Andhra Pradesh
St. Josephs College of Engineering	Kancheepuram	Tamil Nadu
The LNM Institute of Information Technology, Jaipur	Jaipur	Rajasthan
TKM College of Engineering	Kollam	Kerala
Vasavi College of Engineering	Hyderabad	Telangana
Vidyavardhaka College of Engineering, Mysore	Mysuru	Karnataka

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National Institutional Ranking Framework
Ministry of Education
Government of India

India Rankings 2021: Engineering (Rank-band: 201-250)

Institution list in alphabetical order

Name	City	State
B I T Sindri	Dhanbad	Jharkhand
BNM Institute of Technology	Bengaluru	Karnataka
BVRIT Hyderabad College of Engineering for Women	Hyderabad	Telangana
Chennai Institute of Technology	Chennai	Tamil Nadu
CMR Technical Campus	Hyderabad	Telangana
Dayananda Sagar College of Engineering	Bengaluru	Karnataka
Dharmsinh Desai University	Nadiad	Gujarat
Dr. B. R. Ambedkar Institute of Technology	South Andaman	Andaman and Nicobar Islands
G. L. A. University	Mathura	Uttar Pradesh
G. Pulla Reddy Engineering College	Kurnool	Andhra Pradesh
Galgotias College of Engineering & Technology	Greater Noida	Uttar Pradesh
Gayatri Vidya Parishad College of Engineering	Visakhapatnam	Andhra Pradesh
GMR Institute of Technology	Rajam	Andhra Pradesh
Godavari Institute of Engineering & Technology	Rajahmundry	Andhra Pradesh
Gogte Institute of Technology	Belgaum	Karnataka
Guru Jambheshwar University of Science and Technology	Hisar	Haryana
Guru Nanak Dev Engineering College	Ludhiana	Punjab
Gurunanak Institute Of Technology	North Twenty Four Parganas	West Bengal
Haldia Institute of Technology	Haldia	West Bengal
Heritage Institute of Technology	Kolkata	West Bengal
Indian Institute of Information Technology, Design & Manufacturing	Chennai	Tamil Nadu
Institute of Infrastructure Technology Research and Management (IITRAM)	Ahmedabad	Gujarat
JIS College of Engineering	Kalyani	West Bengal
Kasegaon Education Society`s Rajarambapu Institute of Technology	Islampur	Maharashtra
KCG College of Technology	Chennai	Tamil Nadu
Laxminarayan Institute of Technology	Nagpur	Maharashtra
Madan Mohan Malaviya University of Technology	Gorakhpur	Uttar Pradesh
Madanapalle Institute of Technology & Science	Madanapalle	Andhra Pradesh
Maharishi Markandeshwar	Ambala	Haryana
Maharshi Karve Stree Shikshan Samstha's Cummins College of Engineering for Women	Pune	Maharashtra
MLR Institute of Technology	Hyderabad	Telangana
Narula Institute of Technology	Kolkata	West Bengal
Padmasri Dr. B.V. Raju Institute of Technology	Medak	Telangana
Prasad V Potluri Siddhartha Institue of Technology	Vijayawada	Andhra Pradesh
Prof. Ram Meghe Institute of Technology & Research	Badnera Amravati	Maharashtra
R. V. R. & J. C. College of Engineering	Guntur	Andhra Pradesh
R.M.D Engineering College	Thiruvallur	Tamil Nadu

Name	City	State
Rajeev Gandhi Memorial College of Engineering and Technology	Nandyal	Andhra Pradesh
Ramrao Adik Institute of Technology	Navi Mumbai	Maharashtra
Saveetha Engineering College	Sriperumbudur	Tamil Nadu
SCTR's Pune Institute of Computer Technology	Pune	Maharashtra
Shri Vile Parle Kelavani Mandal`s Dwarkadas J. Sanghvi College of Engineering	Mumbai Suburban	Maharashtra
Siddhartha Institute of Technology & Science	Hyderabad	Telangana
Sikkim Manipal Institute of Technology (SMIT)	Rangpo	Sikkim
Sree Vidyanikethan Engineering College	Tirupati	Andhra Pradesh
Sri Sai Ram Institute of Technology	Chennai	Tamil Nadu
Sri Venkateswara College of Engineering	Kancheepuram	Tamil Nadu
TKM College of Engineering	Kollam	Kerala
Vasavi College of Engineering	Hyderabad	Telangana
Vignan Institute of Technology and Science	Yadadri-Bhuvangiri	Telangana

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National Institutional Ranking Framework
Ministry of Education
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India Rankings 2020: Engineering (Rank-band: 251-300)

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Name	City	State
A M C College of Engineering	Bengaluru	Karnataka
Ajay Kumar Garg Engineering College	Ghaziabad	Uttar Pradesh
Ambedkar Institute of Advanced Communication Technologies and Research	Delhi	Delhi
Bengal Institute of Technology	Kolkata	West Bengal
Bhagwan Parshuram Institute of Technology	Delhi	Delhi
Bharati Vidyapeeth's College of Engineering	New Delhi	Delhi
Bhilai Institute of Technology	Durg	Chhattisgarh
Birla Vishvakarma Mahavidyalaya	Vallabh Vidyanagar	Gujarat
CMR College of Engineering & Technology	Hyderabad	Telangana
Dr. Ambedkar Institute of Technology	Bengaluru	Karnataka
Dr. Mahalingam College of Engineering and Technology	Pollachi	Tamil Nadu
Fr. Conceicao Rodrigues College of Engineering	Mumbai	Maharashtra
Galgotias University	Gautam Budh Nagar	Uttar Pradesh
Gandhi Engieering College (GEC)	Bhubaneswar	Odisha

Name	City	State
Godavari Institute of Engineering & Technology	Rajahmundry	Andhra Pradesh
Government College of Engineering	Salem	Tamil Nadu
Guru Nanak Dev Engineering College	Ludhiana	Punjab
JIS College of Engineering	Kalyani	West Bengal
JSS Academy of Technical Education	Bengaluru	Karnataka
Jyothy Institute of Technology	Bengaluru	Karnataka
K. J. Somaiya Institute of Engineering & Information Technology	Mumbai	Maharashtra
Kamaraj College of Engineering & Technology	Madurai	Tamil Nadu
Karpagam College of Engineering	Coimbatore	Tamil Nadu
Lakshmi Narain College of Technology	BHOPAL	Madhya Pradesh
M. G. R. Educational and Research Institute	Chennai	Tamil Nadu
Maharaja Agrasen Institute of Technology	Delhi	Delhi
Maharaja Surajmal Institute of Technology	New Delhi	Delhi
Meenakshi Sundararajan Engineering College	Chennai	Tamil Nadu
MLR Institute of Technology	Hyderabad	Telangana
MVSR Engineering College	HYDERABAD	Telangana
National Institute of Technology Delhi	Delhi	Delhi
Netaji Subhash Engineering College	Kolkata	West Bengal
Prof. Ram Meghe Institute of Technology & Research	Badnera Amravati	Maharashtra
R. M. K. College of Engineering and Technology	Thiruvallur	Tamil Nadu
R. N. S. Institute of Technology	Bengaluru	Karnataka
Rajagiri School of Engineering and Technology	Ernakulam	Kerala
Rajeev Gandhi Memorial College of Engineering and Technology	Nandyal	Andhra Pradesh
Sagi Rama Krishnam Raju Engineering College	Bhimavaram	Andhra Pradesh

Name	City	State
Shah & Anchor Kutchhi Engineering College	Mumbai Suburban	Maharashtra
Shri Shankaracharya Group of Institutions	Bhilai	Chhattisgarh
Siddhartha Institute of Technology & Science	HYDERABAD	Telangana
Sikkim Manipal Institute of Technology (SMIT)	Rangpo	Sikkim
Sir M Visvesvaraya Institute of Technology	Bengaluru	Karnataka
SNS College of Technology	Coimbatore	Tamil Nadu
Sri Padmavathi Mahila Visva Vidyalayam	Tirupathi	Andhra Pradesh
St. Martin's Engineering College	Secunderabad	Telangana
The Oxford College of Engineering	Bengaluru	Karnataka
University College of Technology (Autonomous)	Hyderabad	Telangana
Velammal Engineering College	Chennai	Tamil Nadu

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Dear Ingole San,

Good Afternoon!!!!

We will be supplying a Automation Lab under "YASKAWA CSR" Initiative.

The Price for this Automation cell is INR 14,99,999/-

We will dispatch Automation cell in the last week of Feb. We will install and commission this lab in the first week of March.

We will inaugurate the "Yaskawa Automation Lab" tentatively on 15th of March.

We request you to kindly complete the preinstallation requirements discussed during Mr. Santosh's Visit.

The Cell drawing and Fastener details are attached for your ready reference.

For any clarification, Please call

Thanks & Regards,

Ganesh Mahajan
Pune.

From: Santosh PH <santosh.ph@yaskawa.In>
Sent: 02 February 2021 17:24
To: dsingole@rediffmail.com
Cc: Ganesh Mahajan <ganesh.mahajan@yaskawa.in>; Alok Pandey <alok.pandey@yaskawa.in>; rajesh r <rajesh.r@yaskawa.in>
Subject: INSTALLATION REQUIREMENTS | CSR-BADNERA COLLEGE OF ENGINEERING |

Dear Sir,

Greetings!!!

Please find the attached cell drawing and PPT for your reference.

Below materials are required while installing the educational cell.

SL NO.	DESECRIPTIONS	QTY	REMA
1	COMPRESSOR AND ITS ACCESSORIES(PNEUMATIC PIPE 8MM 10MTR AND ITS FITTINGS)	MAX 6BAR	
2	GAS 80%AR+20%CO2 COMBINATION OR 100% CO2	1 CYLINDER	
3	GAS FLOW METER AND ITS FITTINGS	1QTY	
4	INPUT POWER SUPPLY CABLE 4 CORE_8SQMM_415V_3PHASE_50HZ	10MTR	
5	SEPARATE EARTHING FOR ROBOT CONTROLLER	8SQMM_10MTR	
6	MCB_2QTY	32AMPS_1QTY AND 63AMPS_1QTY	
7	INDUSTRIAL FLOOR(CONCRETE WORK FOR PEDESTAL MOUNTING AND CHEMICAL GROUTING)	CIVIL WORK	FLOOI
8	1.2MM MAG WIRE OR MIG WIRE	12KG OR LESS THAN 12 KG ROLE.	
9	FRL	1QTY	
9	CHEMICAL GROUTING FOR PEDESTAL	HILTI OR MORTAR OR ANY OTHER MAKE	ANCH send I soon)

Please feel free to contact me if any query regarding pre-cell installation support.

Letter of Acknowledgement and Appreciation

To,
Mr. Ajay Gurjar   Dated: 12th March, 2021.
Director & COO.,
Yaskawa India Private Limited,
Plot No. 426, Phase IV, Udyog Vihar,
Gurugram 122016, Haryana (India)

Respected Sir,

Greeting from Prof. Ram Meghe Institute of Technology & Research!!!
We are grateful and thankful to M/s. Yaskawa India Private Limited for the charity and support and for the magnanimous contribution of RS. 15,00,000/- (Fifteen lakh Only) for providing below services/activities at Prof. Ram Meghe Institute of Technology & Research, Amaravati, Maharashtra, as part of M/s. Yaskawa India Private Limited CSR project. We would like to extend our appreciation and regards to M/s. Yaskawa India Private Limited for the help and support to our institute.

Sr. No.	CSR Activity	Vendor Name	Invoice No	Invoice Date	Amount
1	Automation Lab	Axis Global Automation	AGA/20-21/050	5/3/2021	15,00,000
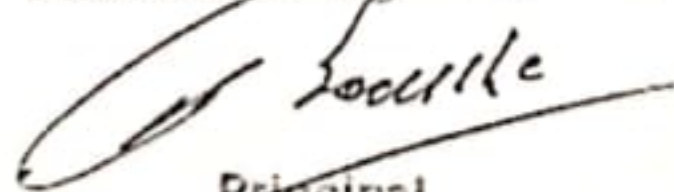
With heartfelt thanks, we acknowledge the receipt of CSR contribution and we hereby enclose copy of invoices and purchase order for reference.

On behalf of every student in our school we sincerely thanks to the management of M/s. Yaskawa India Private Limited for their noble service to our school.

We look forward to your constant support in all our welfare projects.

Thanking You,

Yours sincerely
Prof. Ram Meghe Institute

Principal
Prof. Ram Meghe Institute of
Technology & Research
Badnera Amravati

Authorized Signatory

ENCL: Copy of Invoice No. AGA/20-21/050 Dated 05/03/2021.

Proceedings of
International Conference on
INDUSTRY 4.0

Innovations in Engineering, Technology and Management

ICI INDUSTRY
2019 4.0

Organised by

Vidharbha Youth Welfare Society's
Prof Ram Meghe Institute of Technology & Research,
Badnera - Amravati, India

29th Nov. - 1st Dec. 2019
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● Proceedings of International Conference on Industry 4.0

About Institute

The Vidarbha Youth Welfare Society's Prof. Ram Meghe Institute of Technology & Research, Badnera-Amravati (Formerly well known as College of Engineering Badnera), is leading technological institute from central India. Established in the year 1983, the institute has a prestigious standing amongst the topmost Technical Institutes of Maharashtra. The Institute is approved by AICTE, New Delhi, Accredited by National Assessment and Accreditation Council (NAAC), Bangalore with Grade 'A' & some of it's UG Programmes are Accredited thrice by the National Board of Accreditation (NBA), New Delhi. The Institute is recognized by Directorate of Technical Education (DTE Mumbai), Govt. of Maharashtra and affiliated to Sant Gadge Baba Amravati University, Amravati and is offering UG, PG and PhD courses in Mechanical Engineering, Computer Science and Engineering, Information Technology, Electronics and Telecommunication Engineering and Civil Engineering along with PG courses like MBA and MCA.

"Vidarbha Youth Welfare Society" was conceived to be the fountainhead of education for a rural area in the year 1965. The young, dynamics & forward-looking management of PRMIT&R is carrying forward the pioneering legacy of the visionary founders, who dare to dream and strived hard to achieve their seemingly impossible goals. The management team is comprised of highly qualified people and stalwarts from medical, academic, legal and business fraternity. Their varied skills-sets help them in coming up with vagaries of the technical education field.

The team of the highly qualified and experienced academicians strives to achieve this credo under the proficient guidance of the Principal of the Institution. The team has an indomitable spirit to nurture and educate potential professionals and bring laurels to the institute.

About the Conference

Industry 4.0 refers to a new phase in the Industrial Revolution that focuses especially on interconnectivity, automation, machine learning, and real-time data. Industry 4.0, also sometimes referred to as Industrial Internet of Things (IIoT) or smart manufacturing, blends physical production and operations with smart digital technology, machine learning, and big data to create a more holistic and better connected ecosystem. While every company and organization operating today is different, they all face a common challenge-the need for connectedness and access to real-time insights across processes, partners, products, and people.

Department of Heavy Industries (DHI), Government of India has initiated 'SAMARTH Udyog Bharat 4.0 projects' with the objective to facilitate and create ecosystem for propagation of Industry 4.0 set of technologies in every Indian manufacturing by 2025, be it large, medium or small-scale Indian company or MNC.

This Conference on 'Industry 4.0-Innovations in Engineering, Technology & Management (ICI 4.0-2019)' being organized by Prof. Ram Meghe Institute of Technology & Research Badnera and is majorly sponsored by All India Council for Technical Education(AICTE-New Delhi). Other associates of ICI4.0-2019 are Institute of Engineers-India (IEI) ALC, Indian Water Works Association (IWWA) Amravati Center, Indian Concrete Institute (ICI) & The Institution of Electronics and Telecommunication Engineers (IETE). ICI 4.0 focuses on the impact of transition to Fourth Industrial Revolution on Ecosystem, Infrastructure, Efficiency and Competitiveness of industrial operation in general. The conference also focuses on the strategy & challenges in every engineering and technological discipline to develop solutions in implementation of Industry 4.0.

Conference Associates

All India Council for Technical Education (AICTE)

All India Council for Technical Education (AICTE) was set up in November 1945 as a national-level Apex Advisory Body to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner.

The Indian Water Works Association

The Indian Water Works Association is a voluntary organization of Professionals concerned with WATER. The Association founded in 1968 (and registered under the Societies Registration Act of 1961) with headquarter in Mumbai and 34 IWWA centres in the Country. The Objective of IWWA is to stimulate and promote the development of Science, Technology, Economics, Environment, Ecology and Social Sciences in managing the Water; both fresh and waste water.

The Institution of Electronics and Telecommunication Engineers (IETE)

The Institution of Electronics and Telecommunication Engineers (IETE) is India's leading recognized professional society devoted to the advancement of Science and Technology of Electronics, Telecommunication & IT. Founded in 1953. The IETE is the National Apex Professional body of Electronics and Telecommunication, Computer Science and IT Professionals.

Indian Concrete Institute (ICI)

Indian Concrete Institute is one of the leading professional bodies in India, catering to the professional needs of individuals and organizations involved in Concrete. Being a non-profit Organization, it is dedicated to the cause of Disseminating Knowledge on Concrete, to Promote Concrete Technology and Construction and to address the Research Needs of Concrete.

The Institution of Engineers (India) (IEI)

The Institution of Engineers (India) (IEI) is a statutory body to promote and advance the engineering and technology, established in 1920 and incorporated by Royal Charter in 1935. It is the largest multi-disciplinary professional body of engineers encompassing 15 (fifteen) engineering disciplines. The IEI has its headquarters located in Kolkata with national presence through more than hundred Centres and several Overseas Chapters, Foras and Organ.

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International Conference on
INDUSTRY 4.0
Innovations in Engineering, Technology and Management

ICI NDUSTRY 4.0
2019

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Message

Industry 4.0 shares an insight into the recent research and cutting edge technologies, which gains immense interest with the colossal and exuberant presence of adepts, young and brilliant researchers, business delegates and talented student communities. Conference goal is to bring together, a multi-disciplinary group of scientists and engineers from all over the world to present and exchange break-through ideas relating to the technological trends. It promotes top level research and to globalize the quality research in general, thus making discussions, presentations more internationally competitive and focusing attention on the recent outstanding achievements in the field of industry, and future trends and needs.

Vidarbha Youth Welfare Society is one of the prime initiators to motivate quality research work in this field. During our journey of excellence in last 50 years, our organizations, academicians, scientists, engineers and professionals have been continuously working to develop excellent solutions, policies and security standards. Keeping the pace, the Industry environment is changing every day, more research and innovative mechanisms are required. I hope that International Conference on Industry 4.0-Innovations in Engineering, Technology & Management (ICI 4.0-2019) will surely bring light to the recent advances of Industry trends, Information Technology, Mechanical and Civil Engineering which will help in the growth of industry and organizations using diversified and unique solution for development.

It is also a matter of great pleasure that in this conference, renowned Academicians and Scientists through their expert talk will summate invaluable aspects to the innovative ideas and shall broadened the perspective of budding researchers.

I wish the conference all the success.

Dr. Nitin R. Dhande
President,
Vidarbha Youth Welfare Society,
Amravati–444602
Maharashtra (India)

Message

It is a matter of great pleasure for me to know that Prof. Ram Meghe Institute of Technology & Research Badnera is organizing International Conference on Innovations in Engineering, Technology & Management (ICI 4.0-2019) on 29th November – 01st December 2019. The interaction of engineers, academicians; and scholars from national and international organizations will go a long way in knowledge sharing in diverse fields for the promotion of research culture in the country. Providing a platform to people and researchers for the promotion of research will immensely benefit young scholars participating in the conference.

I am convinced that the conference will definitely provide a platform to the participating delegates to discuss important issues to develop new knowledge in engineering, Information and Technology, Management and Sciences.

Today's world, it is important to perpetuate and extend mutual cooperation to visualize our dreams and using the diverse talents available in our people. By interacting with the academicians and the professionals all should mutually be able to enhance their knowledge on the state of the art technology as well as the Industry demand, I hope students, researchers, professionals and faculty members of PRMIT & R, Badnera will also learn an abundance of things with their active participation.

I wish a grand success of this endeavor.

Adv. Uday S. Deshmukh
Vice President,
Vidarbha Youth Welfare Society,
Amravati-444602
Maharashtra (India)

Message

It is a matter of great pride and satisfaction that Prof. Ram Meghe Institute of Technology & Research, Badnera-Amravati is arranging an international conference on "Industry 4.0-Innovations in Engineering, Technology & Management (ICI 4.0-2019)". This is a matter of great appreciation from academicians, international scholars and IT personnel. Being the leading technical institute of Central India, we take the privilege to make the people well conversant with the importance of cyber-physical system, big data analytics and cloud computing, which will help in early detection of defects and production failures, thus enabling their prevention and increasing productivity, quality, and agility benefits that have significant competitive value in the Industry. We are in an age when we hardly have any option to keep such issues behind. ICI 4.0 focuses on the impact of transition to Fourth Industrial Revolution on Ecosystem, Infrastructure, Efficiency and Competitiveness of industrial operation in general. The conference also focuses on the strategy & challenges in every engineering and technological discipline to develop solutions in implementation of Industry 4.0. . I hope that the outcome of international conference will act as a milestone for the development of Industry 4.0 & technology in the country as well as to create enthusiasm among the next generation for creative innovations in their field of interests.

My heartiest congratulations to the organizers of this international conference. I believe that we will be able to hold more international conferences on various special issues that will address the needs of the country in future.

I wish the conference a grand success.

Dr. Hemant M. Deshmukh
Treasurer,
Vidarbha Youth Welfare Society,
Amravati-444602
Maharashtra (India)

Message

Being patron of the conference I heartily welcome all the distinguished Speakers, scholars and researchers presenting papers and the participants to this International Conference on Innovations in Engineering, Technology & Management (ICI 4.0-2019) organized by Vidarbha Youth Welfare Society's - Prof. Ram Meghe Institute of Technology & Research, Badnera Amravati.

This International conference is a leading conclave for researchers, experts, practitioners and users to explore the cutting edge technologies, finding and results to exchange ideas, techniques, tools and experiences. In today's fast changing world, there is a constant demand for new technologies and innovations in every sphere of industry. The ideas that feed the ever growing demand for new designs and applications are derived from the intensive efforts put in by scientists and researchers all over the world who work enthusiastically to produce results. I am sure and confident that this conference will act as a common platform to showcase and share the research findings happening throughout the world for further improvement.

I whole heartedly appreciate all the sincere efforts of the entire team of ICI 4.0 and wish them a grand success.

Mr. Yuvrajsingh V. Chaudhary
Secretary,
Vidarbha Youth Welfare Society,
Amravati-444602
Maharashtra (India)

Message

I am very glad that our college is organizing an International Conference on "Industry 4.0-Innovations in Engineering, Technology & Management (ICI 4.0-2019) on 29 November 2019. I hope this international conference would certainly help everyone to have a better understanding of Industry 4.0 which is the trend towards automation and data exchange in manufacturing technologies and processes. This include cyber-physical systems (CPS), the internet of things (IoT), industrial internet of things (IIOT) to create a better future for the next generation of students, faculty, and researchers in academia and industry.

Under the able guidance of our management of Vidarbha Youth Welfare Society, Prof Ram Meghe Institute of Technology & Research, We continues to march on the way of success with confidence, foresighted vision and precise decision making powers of our management has benefited our college to stay competitive. I would like to thank our management for their continuous support, motivation and encouragement.

On behalf of management, I thank, All India Council for Technical Education (AICTE-New Delhi), Institute of Engineers-India (IEI) ALC, Indian Water Works Association (IWWA) Amravati Center, Indian Concrete Institute (ICI) & The Institution of Electronics and Telecommunication Engineers (IETE).

I congratulate Conveners, Coordinators and Committee members for their profound efforts in organizing the event and making it reality.

I also congratulate all participants for this conference and wish conference a grand success.

Dr. A. P. Bodkhe
Principal,
Prof. Ram Meghe Institute of Technology & Research,
Badnera- Amravati – 444701

Message

It is my privilege and honor to welcome you all to the "International Conference on Industry 4.0 (ICI4.0)" going to be held during 29th November - 01st December 2019. The conference is organized by Vidarbha Youth Welfare Society's (VYWS's) Prof. Ram Meghe Institute of Technology and Research (PRMIT&R), Badnera-Amravati with the support of All India Council for Technical Education (AICTE), New Delhi and the untiring efforts of VYWS Management as well as the faculty, staff and students of PRMIT&R..

After the three major revolutions taken place during past three centuries in industrial sectors, the integration and interfacing of systems and processes with the adoption of their automation, development of real-time data capturing, data processing and data analysis systems for improving the overall productivity, consequently has emerged the need for one more new industrial revolution, i.e. the Industry4.0. The scope of this conference is multidisciplinary, since every discipline of engineering has a vital role to play in the development, implementation and sustainability of Industry 4.0 concept in the manufacturing and other industries.

With approximately 200 papers from Mechanical, Computer, IT, Electronics, and Civil Engineering dedicated to the research in core and advanced area from almost every sector of technology will be presented by various researchers, faculty and students. The invited talks will also be delivered by experts and panel discussion will offer the solutions to diversified techno-eco-social issues.

With a great pleasure I welcome you ALL!

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Dr. D. S. Ingole
Convener – ICI 4.0,
Prof. Ram Meghe Institute of Technology & Research,
Badnera- Amravati – 444701

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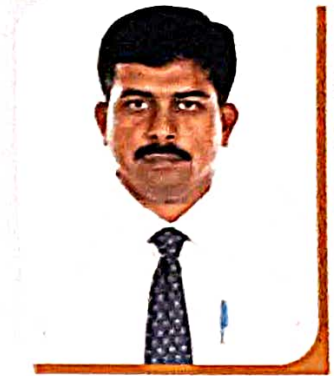
Message

It is my great pleasure to welcome you to the International Conference on "Industry 4.0-Innovations in Engineering, Technology & Management (ICI 4.0-2019) which takes place in Amravati, Maharashtra on November 29 - 01 December, 2019. It has been a real honor and privilege to serve as the convener of the conference.

The main goal of organizing this conference is to share and enhance the knowledge of each and every individual in this computer world. We have given a good opportunity for those who have a thirst in knowing the present technological developments and also share their ideas. Furthermore, this conference will also facilitate the participants to expose and share various novel ideas. The conference aims to bridge the researchers working in academia and other professionals through research presentations and keynote addresses in current technological trends. It reflects the growing importance of intelligent Computing systems as a field of research and practice. You will get ample opportunities to widen your knowledge and network.

Such a large conference event is the culmination of many individuals. I thank Management Committee of Vidarbha Youth Welfare Society & Honorable Principal - Prof Ram Meghe Institute of Technology & Research for giving me this opportunity, I extend my thanks to the conference committee for extending their valuable time in organizing the program and all the authors, reviewers, and other contributors for their sparkling efforts and their belief in the excellence of ICI 4.0.

Dr. S. J. Deshmukh
Convener – ICI 4.0,
Prof. Ram Meghe Institute of Technology & Research,
Badnera- Amravati – 444701

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International Conference on
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CIVIL

ENGINEERING

CVL-101

ANALYSIS AND DESIGN OF RC UNSYMMETRICAL MULTISTOREY BUILDING HAVING SOFT STOREY

Mayur L. Mawale, Dr. P. S. Pajgade

Abstract- Due to the tremendous destructions of buildings after earthquakes in past few decades, there is the need to evaluate and improve the seismic performance of multi storied reinforced concrete buildings. There are several numbers of factors affecting the behavior of building. Stiffness irregularity in vertical direction is one of them, as a result of which soft storey is formed. As per the latest seismic code IS 1893:2016, minimum 2% of plan density of shear walls should be available to resist earthquake force smoothly. In this paper, a parametric study is performed on unsymmetrical multi storey building with soft first storey, located in seismic zone III by considering different percentage of plan densities of shear walls at various locations. It is intended to describe the performance characteristics such as stiffness, displacement, drift etc. The study is carried out on a building with the help of different models considering various methods for improving the seismic performance of the building with soft first storey. The response spectrum analysis is carried out on all the 3D model using the software ETABS 2017 and the comparison of these models are presented. Also, the effect of torsion in the analysis of buildings is studied.

Keywords- soft storey; shear wall; response spectrum analysis; torsion

CVL-102

PERFORMANCE OF LEAD-RUBBER BASE ISOLATED BUILDING STRUCTURE IN HIGH SEISMIC PRONE REGION

Om Gomase, Prof. P.S. Pajgade, Prof. P. B. Waghmare

Abstract- The seismic response of multistory RC fixed building and the building supported on LRB base isolation is investigated under real earthquake time history motion. The structural system considered for analysis is a 10 story reinforced concrete building, in zone IV, with hard site soil spectral condition as per IS1893-2016, which is idealized as a shear type building. To study the performance response of fixed and base LRB base isolated building, both the model analyzed with ETABS program. The objective of this study is to evaluate comparison response behavior of fixed and base isolated building structure. To study the optimum response and design of base isolated building, the parametric isolation properties of LRB have been studied for different damping values as ξ=0.1, 0.15, 0.20, 0.25, 0.30 with different isolation time period as Teff =2.0, 2.5, 3.0 and 3.5 sec. In this paper earthquake time history analysis applied to study the influence of the isolation damping and performance of fixed & isolated structure. For analysis of structure four actual time histories, namely, Imperial Valley-02, Nothridge-01, San Fernando and Kern Country, have been extracted from "PEER GROUND MOTION DATABASE". The variation of top floor absolute acceleration, displacement for various parametric properties applied models under different earthquake computed to study the floor spectral response at roof level and the bearing hysteresis behavior. In order to match all time histories with the target response spectrum IS1893-2016, *SeismoMatch-2018* algorithm have been used under time domain method. The analysis comparison revels that base isolated structure reduces response performance considerably in compare to the fixed structure which impart a vital role in reducing the sizing of structural members and amount of designed steel requirement as well. Top floor acceleration and displacement floor spectra have been developed to study the exact earthquake response and finding out the optimum design parametric properties of LRB and corresponding cost comparison in case of Indian site area in highly seismic zone IV.

Keywords- Base isolation, time period, time history, target response spectrum, spectral response, floor spectra.

CVL-103

DESIGN OF HIGH STRENGTH CONCRETE WITH ADDITION OF ADMIXTURES BY ACI 211.4R-93

Santosh Kinayekar

*Abstract-*High Strength Concrete (HSC) is dense, homogeneous and has the improved engineering properties and durability as compare to conventional concrete. In recent years, HSC has gained wide application in the construction industry. Ingredients of HSC are similar as conventional concrete, such as cement, fine aggregate, coarse aggregate and water. The paste of HSC requires high volume of cement content and less water to binder ratio. The high strength and flowability of HSC can be achieved by employment of cement content, mineral admixtures and chemical admixtures. However, increasing the cement content causes high cost, higher heat of

hydration and higher drying shrinkage. This can be reduced by employing mineral admixture such as fly ash. In the present investigation, cement content for HSC mix is replaced with fixed percentages of fly ash (10%).

CVL-104

UTILIZATION OF COFFEE INDUSTRY WASTE AND SPENT COFFEE GROUND FOR GENERATION OF POWER ALCOHOL

Prof. Pallavi P. Tajane, Prof. Neelam W. Chorey

Abstract-As a consequence of this big market, the reuse of the main coffee industry residues is of significance importance from environmental and economic viewpoint. Research employs advance process to extract oil, which involves soaking the coffee ground in organic solvents that separates the oil. The separated oil later undergoes a series of chemical reaction to produce biodiesel. Inexpensive process to extract oil from the coffee waste that was then converted into biodiesel, which could be used to fuel motor vehicles, will be use. Biodiesel from coffee oil will be more economical though in the current scenario of coffee biodiesel would not be able to replace conventional fuel. Researchers estimate that 10 kg of waste coffee grounds are produced by a small coffee shop, which can produce nearly 12 litres of bio-fuels. Research employs advance process to extract oil, which involves soaking the coffee ground in organic solvents that separates the oil. The separated oil later undergoes a series of chemical reaction to produce biodiesel. Inexpensive process to extract oil from the coffee waste that was then converted into biodiesel, which could be used to fuel motor vehicles, will be use. Biodiesel from coffee oil will be more economical; though in the current scenario of coffee biodiesel would not be able to replace conventional fuel. Researchers estimate that 10 kg of waste coffee grounds are produced by a small coffee shop, which can produce nearly 12 liters of biofuels.

Keywords- Spent coffee ground, biodiesel, Bio-ethanol, fermentation, zero waste

CVL-105

EFFECT OF TYRE SHREDS AND LDPE WASTE ON BEHAVIOUR OF BLACK COTTON SOIL

Rushikesh Langote, RutujaAdhau, Suresh Yenkar

Abstract-In India Almost 20% of area is occupied by black cotton soil, on account of its high volumetric changes it is not suitable for construction. It swells and shrinks excessively due to presence of fine clay particles. Alternate swelling and shrinking of soil is responsible for differential settlement of structure so black cotton soil must be treated by using suitable admixtures to stabilize it. This works aim to study the effect of rubber tyre shreds and LDPE on properties of BC soil. In this program the various test such specific gravity (G), Atterbergs limit (liquid, plastic and shrinkage limit), optimum moisture content and maximum dry density, California bearing ratio, and triaxial compression test was performed on oven dry soil to know the basic properties of BC soil. The tyre shreds and LDPE are added as reinforcement in the soil with varying percentage of weight of soil. It was observed that for tyre shreds the MDD value increases upto 4% and then decreases considerably, in case of LDPE it increases up to 1% and decreases considerably. The CBR value is found to be increased with the increase in 1% of both rubber tyre shreds and LDPE. The cohesion and angle of friction value shows improvement up to 4% of reinforcement. From the study it is concluded that the use of rubber tyre shreds and LDPE for stabilization of BC soil is an economical and environmental settling of the problems connected with its disposal.

Keywords - Rubber Tyre Shreds, Low Density Polyethylene Plastic waste, Back Cotton Soil, CBR

CVL-106

REVIEW ON ANALYSIS AND DESIGN OF DIFFERENT TYPES OF PRESTRESS CONCRETE COMPOSITE SECTIONS

Akash M. Rathi, Shrikant R. Bhuskade

Abstract-Prestress concrete composite sections are highly versatile prestressed construction techniques as a result of it being an almost ideal combination of its two main constituents: high-strength steel, pre-stretched to allow its full strength to be easily realised; and modern concrete, pre-compressed to minimise cracking under tensile forces. It's wide range of application is due to low self-weight and its high load carrying capacity, which fulfils the need of economic construction in most areas of structural and civil engineering. This literature reviews analysis and design of different types of prestress concrete composite sections. Composite prestress

concrete sections consist of precast pre-stressed sections and cast in-situ concrete. Stiffness, cracking moment, Pretensioned and Post-tensioned technique. Tensile force is balanced by a compressive force applied at the centroid of equal magnitude. The force applied at the cast in situ slab causes a direct force acting at the centroid of the composite section together with a bending moment. The prestressed concrete composite units are erected first and can be used to support the formwork needed for the cast in situ concrete slab (topping slab) without additional scaffolding (or shoring) to obtain smooth and even floor finish. Erection of a topping slab on site resulted in improvements in the initial stiffness and cracking moment of Prestress composite sections. Prestress Concrete Composite Sections allows "load-balancing" forces to be introduced into the structure to counter in-service loadings and working loadings due to its Pretensioned and post-tensioned techniques according to its types: Pre-stressed Concrete Rectangular Beams, Pre-stressed Concrete Rectangular Slabs, Pre-stressed Concrete I Girders & Pre-stressed Concrete Hollow Core Slabs.

Keywords-Prestress concrete, high-strength steel, low self-weight, topping slab, shoring, initial Stiffness, cracking moment, Pretensioned and Post-tensioned technique.

CVL-107
REVIEW PAPER ON ANALYSIS AND DESIGN OF DIFFERENT TYPES OF PRE-STRESSED CONCRETE SECTIONS

Saurabh Bagade, Prof. S. R. Bhuskade

Abstract- Pre-stressed concrete is a method for overcoming concrete's natural weakness, i.e. tension. It can be used to produce beams, slabs, girders for heavy loading, longer span with effectively less depth and are light weight by providing the curved tendons and the pre-compression, a considerable part of the shear is also resisted.

Pre-stressed concrete sections are thinner and lighter than RCC sections, since high strength concrete and steel are used. Thinner sections in pre-stressed concrete results in less self weight and hence overall economy. Cracks do not occur under working loads in the pre-stressed concrete sections. Even if a minute crack occurs when overloaded, such crack gets closed when the overload is removed.

In this paper analysis and design of different types of prestressed concrete sections using pre-tensioning and post-tensioning methods is reviewed. Pre-stressing removes a number of design limitations that the conventional concrete faces. The deflections of the pre-stressed concrete sections are small as compared to the conventional concrete.

Keywords- Pre-stressed Concrete, High Strength Steel, Self weight, Economy, Deflection

CVL-109
USE OF RECYCLED GLASS IN CONCRETE MIX

Amar S. Deshmukh

Abstract- Now-a-days glass is mostly used in daily life in various forms. As it is a delicate material, it is prone to breakages. Also scraps from various other utilities are also available in abundance. Either it is disposed off or dumped. It is a non-biodegradable material. Use of recycled glass in making concrete mix provides a good environmental friendly solution against its free disposal. Though glass is very prone to alkali-silica reaction (ASR), it's effect can be prevented by using low alkali content cement. A small amount of metakaolin, chromium oxide, zirconia or lithium also suppresses the (ASR). In the current research work, use of waste glass, in various forms, in concrete mix is done. Glass powder, polishing dust is used for replacement of cement. Fine aggregates and coarse aggregates are also replaced by glass aggregates. Thus, the research aims at environmental friendly utilization of waste glass in concrete making.

Keywords - non-biodegradable, recycle, alkali-silica reaction ASR

CVL-111
REVIEW PAPER ON STRENGTHENING OF CONCRETE ELEMENTS USING COMPOSITE FIBER LAMINATES

Keshav Goyanka, M. A. Banarase

Abstract-Fiber Reinforced Polymer (FRP) composites provides a smart solution to ever-growing construction issues. Since FRP composites have higher superiority over traditional steel reinforcements they are being widely used in retrofitting of structures. Nowadays, Various methods of application and different composition of FRP composites are available to solve various problems in constructions. This paper presents a state-of-the-art review on current and some important research papers that plays a vital role in determining the effect and properties of different FRP composites. The review highlights experimental, numerical and analytical studies on FRP composites. FRP composites are used for enhancing the flexural, shear, torsion capacity of RC elements and can also be provided to resist seismic, wind, environmental condition such as temperature, freeze and thaw, saline environment, etc.

Keywords-FRP, Strengthening, Concrete repair, External Bonding, strengthening of beam, strengthening of column.

CVL-113
ADVANCES IN AIR POLLUTION, ITS MONITORING & REMEDIAL MEASURES - A REVIEW

S.V.Dharpal, Dr. N.W.Ingole

Abstract - Air quality have been long-standing concerns in the India and elsewhere, primarily due to rapid economic growth, industrialization and urbanization with associated increase in energy demand. Lack of implementation of environmental regulation is contributing to the bad air quality of most of the Indian cities. The World Health Organization reports that every year several million people die prematurely due to air pollution. Particulate matter (PM), Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Carbon Monoxide (CO) and Ozone (O_3) are the major element of polluted air. The presented review is an effort to discuss various aspects of advances in air pollution and control technologies emphasizing on the history and present scenario.

Keywords -Air Quality, Air Quality Index, Urban air pollution, Particulate Matter, Ozone,

CVL-114
REVIEW ON EXPERIMENTAL STUDY ON EFFECT OF CORROSION ON STRENGTH OF STEEL REINFORCEMENT AND CONCRETE BEAM

Abhishek S. Gawande, Prof. M. A. Banarase

Abstract- Reinforced concrete structures are more durable as it is capable to withstand the different environmental exposure. But corrosion of its reinforcement is the limitation to concrete's durability even if it of good quality which is cause due to penetration of chloride, moisture, etc. This paper reviews corrosion of the reinforcement embedded in concrete and rebar solely. Accelerated Corrosion Technique is adopted along with different water cement ratio used for evaluating corrosion by various researchers. Some researchers use minerals like fly ash as a replacement of cement to achieve economy. Various tests were conducted on specimen with corroded reinforcement and non-corroded reinforcement to compare loss in strength and its behaviour for different curing period.

It can be observed that corrosion of reinforcement can adversely affect strength, durability and ultimately its design life. The Structural Designer provides an economic design for structures which is adequate for member for its better performance throughout its design life. But a poor workmanship, poor quality material, improper maintenance introduces a corrosion in concrete members. Proper measures should be taken to select repair technique, repairing material, skilled personnel to prevent future corrosion of reinforcement otherwise the structure will collapse resulting in loss of property and users lives.

Keywords- Corrosion, Reinforcement, Strength, Durability, Economic Design.

CVL-115

FEASIBILITY STUDY ON FLY ASH BASED GEOPOLYMER CONCRETE

Prof. S. C. Sagane, Prof. H. P. Nistane

Abstract-Concrete is the most widely used building material in the construction of infrastructures such as buildings, highways, dams, and many other facilities. The increasing of worldwide production of ordinary Portland cement to meet infrastructure developments indicates that concrete will continue to be a chosen as the most common material of construction in the future. The production of cement consumes a lot of energy and increase CO_2 emission to the atmosphere. Another alternative to make environment friendly concrete is the development of geopolymer which is an inorganic alumina – silicate polymer, synthesized from materials of geological origin or by product materials such as fly ash which is rich in silicon and aluminum. In this study, 2 mixes were produced to evaluate the effect of key parameters on the mechanical properties of concrete and its behavior. For curing of specimens ambient curing (at room temperature) and oven curing at a temperature of 75°C have been used. Geopolymer concrete gives better results in workability of concrete as compare to conventional concrete. Test results reveal that fly ash based geopolymer concrete gives better results of compressive strength than ordinary Portland cement. As the fluid to fly ash ratio increases the compressive strength decreases. For oven drying curing increase in compressive strength is more than ambient curing at room temperature as compare to conventional concrete.

Keywords-Compressive Strength, Concrete, Fly Ash, Geopolymer, Rebound Number.

CVL-116

A REVIEW PAPER ON TORSIONAL BEHAVIOR OF ASYMMETRICAL BUILDINGS

Aayushee K. Gulhane, Dr. P. S. Pajgade

Abstract- The structures having discontinuity in their mass, stiffness and geometry, such structure is termed as asymmetric/ irregular structure. At the present scenario there are many buildings which are asymmetric in their plan as well as in elevation. These asymmetry leads to major damage during earthquake than regular buildings. Sometimes irregularities are not avoidable in construction of buildings. However the torsional behavior of asymmetric building during earthquake needs to be studied for appropriate design and better performance of building. Several studies of structural damage during past earthquake conclude that torsion is the most critical factor leading to major damage or complete collapse of a building.   The object of the present work is to state a review on the past papers presented on torsional behavior of asymmetrical buildings. So the present work provides a good source of information to understand structural behavior of building with irregularities under strong ground motion.

Keywords- Earthquake, Asymmetrical Building, Torsion

CVL-117

COST AND SCHEDULE OVERRUN IN CONSTRUCTION PROJECTS

Prof. S. P. Raut, Prof. V. S. Gohtre

Abstract- In construction industry time and cost performance are the fundamental criteria for success of any project. Unfortunately construction industry facing poor performance leading to failure in achieving effective time and cost performance. Therefore to complete the project on time it is necessary to reduce the causes which are responsible for time & cost overrun. The aim of the study is to analyze the construction projects to determine construction cost and schedule overrun in various types and size of the projects. Number of samples were collected and analyzed to find various factors responsible for the cost and schedule overrun. This study will help the practitioners to implement the mitigation measure at planning stage in order to achieve successful construction project. The aim of the study is to establish significant causes of cost escalation, schedule overruns and propose mechanisms that could be used to systematically address the causal factors.

Keywords- Cost overrun, Schedule overrun, Construction Project, Analysis

CVL-118

A REVIEW PAPER ON PARTIAL REPLACEMENT OF PORTLAND CEMENT BY ALCCOFINE

Prof. Sayali A. Baitule

tract-Concrete is most widely used material for construction. Major component of concrete is cement. There rge amount of carbon dioxide emissions into the atmosphere, a major contributor for greenhouse effect and bal warming during manufacturing process of cement. Thus it becomes necessary to discover a substitute erial for cement in concrete. There are many other Supplementary Cementitious Materials (SCM's) have n used as a partial replacement to cement in the production of concrete. Also the necessity of High formance Concrete is increasing day by day. The production of high strength and durable eco-friendly crete leads to the use of a new generation ultrafine supplementary cementitious material.

cofine is a new generation micro fine concrete material which can be use in concrete by partially replacing cement. Properties of concrete can be improved by partial replacement of cement by alccofine. Also cofine is easy to use and it can be added directly with cement. This paper involves the review of published rature of various authors which focused on effect of partial replacement of cement with alccofine in concrete. s concluded that partial replacement of cement with alccofine can improve the strength and durability aracteristics of concrete. The cost of concrete mix prepared with alccofine is less than the concrete without cofine for high strength concrete.

CVL-119

PERFORMANCE OF BAMBOO FIBRE AND STEEL FIBER REINFORCED CONCRETE

Dr M.V.Mohod

stract— Bamboo and steel are construction materials having varied engineering properties and qualities used structural and other constructional applications. The fast growth and maturity pace of bamboo, sustainability, sthetics, higher strength and low cost make it a strong construction material as a substitute for steel. For veloping countries like India, steel is difficult to obtain because of expensive prices and for construction lustry usage of steel is limited. In addition to this, production of steel has heavy consumption of fossils fuels. nce it is very important to invent new building construction material, which is low cost, requires less phisticated technologies and reliable construction methodology. Addition of steel fibers in discreet or tterned increases the mechanical properties of the concrete, especially flexural strength. Bamboo strips are o considered as main reinforcement by some of the researchers, while comparing the same with steel bars. esent research work deals with the addition of bamboo fibers in dispersed/ discreet form in varying content of mboo fiber. Concrete specimens were made to check the mechanical properties of bamboo fiber concrete. In dition to this, steel fiber reinforced concrete is developed by varying content of steel fibers in concrete matrix. omparative graph is presented with reference to mechanical properties of both the developed concrete. A table increase in mechanical properties is observed in bamboo fiber reinforced concrete as compared to steel er reinforced concrete. To understand the behaviour of fiber reinforced slabs under different temperature nditions, slabs of varying thickness are casted and experimental results are collected and compared with the mperature differential recommended by IRC 58-2015.

eywords- Bamboo, Bamboo Reinforced Concrete, Bamboo Fibres, Steel Fibres, Sustainable recourses, Slab mperature variation, temperature differential, IRC 58-2015.

CVL-120

PERFORMANCE OF SUSTAINABLE RECYCLED CONCRETE PAVERS

Miss Swati N. Nibhorkar, Dr M.V. Mohod

bstract-As more amount of researches are focused to explore different grey areas in sustainable material chnology as the demand for construction material is heavily increasing. This research deals with study on the erformance of Sustainable Paving Unit. Structural designers are more concerned on use of suitable material / chnology in day to day construction practices. Considering that in view an Endeavour has been made to nvestigate the feasibility of using granite aggregate in concrete. Literature survey has shown various fiber naterials and granite aggregate properties and their behavior on concrete that have potential to be used as easible material. Among those materials industrial waste granite is adopted to see whether those materials can e used in mass construction. Therefore, the prime objective of this paper is to investigate the feasibility of tilizing waste granite material for preparing the concrete of M40 grade with locally available material. The

addition of small granite aggregate to concrete would substantially improve its properties. In this study we used industrial waste granite as a replacement with aggregates in concrete. Granite aggregates are replaced by natural aggregate in the proportion of 10%, 20%, 30%, and 40%, to investigate effect on mechanical properties of Concrete mix such as compressive strength, flexural strength and split tensile strength. For easy reference, results are presented in tabular and graphical form. Parametric study has been conducted on mechanical properties of prepared concrete mix. From study it has been observed that the Granite aggregate have shown significant improvement in compressive strength, flexural strength and split tensile strength for 30% replacement of granite aggregate. Whereas, comparing the results obtained it can be concluded that Granite aggregate can be utilized in mass concrete construction. The variation in temperature of 24 hours has been studied for different shape of Paver. The actual differences are presented in graphical and tabular form for easy referencing.

Keywords-Sustainable Material, Granite Waste, Compressive Strength, Flexural Strength

CVL-122

MIVAN FORMWORK SYSTEM IN BUILDING CONSTRUCTION-A REVIEW

Kanchan S. Kokate, Prof. Syed Sabihuddin

Abstract- Construction is one of the significant sectors of Indian economy and is an integral part of development of country. India's population in present scenario is the second largest in the world which leads to increased demand for housing. To fulfill this requirement India should desperately plan for rapid construction works. One of the important parameter of a successful construction project in terms of speed, quality, cost and safety of work is the formwork used in project. Formwork consumes about 35 to 40 % cost of the project. Formwork enables to cast and construct the important elements and components of any construction project, which are required to be strong and effectively handle the structure. Mivan is comparatively a new construction technology upcoming for successful completion of mass project especially repetitive in nature. This paper focused about the cost and time consideration of Mivan Formwork system with Conventional Formwork system. The Mivan Formwork system is appreciably efficient with cost, quality and time saving as compare to Conventional Formwork system. The basic ideology is to bring the attention on Mivan Formwork system over conventional formwork system and highlighting the affectivity of Mivan formwork system over Conventional formwork system.

Keywords-Mivan formwork, Time and Cost optimization, Quality.

CVL-123

FLOOD FORECASTING USING MACHINE LEARNING WITH ANN

Amitkumar B. Ranit, Dr. P. V. Durge, Sangita R. Gudadhe

Abstract- Flood is large amount of water passing an overflow on a land. Flood forecast (FF) system issue a warning corresponding to water level or discharges through hydraulic structures. Flood forecast (FF) increase the capability and advancement in hydrology to mitigate the hazards using machine leanings with ANN. Flood forecasting using machine learning algorithm (MLA) method understand to learn and improve system scale to mitigate flood hazards according to the climate change. This research is carrying out for flood forecasting on Upper Wardha project across Wardha river basin. Flood forecasting (FF) using real time estimation gives chances of flood value and by using the forecasted inflow, rate of inflow in reservoir can decide the time of operation i.e. opening and closing of gate in real time with ANN.

Keywords-Flood; ANN; Machine Learning; Real Time

CVL-124

ARTIFICIAL NEURAL NETWORK FOR PREDICTION OF SHEAR STRENGTH OF SOIL

Rahul R. Wankhade, Dr. P. V. Durge

Abstract- Shear Strength determination demands extensive skilled experimental execution in addition to experienced judgment and sophisticated equipment's. Computational methods can be of great help and efficient in arriving at shear strength using relatively less demanding basic index properties of soil. The methods such as regression analysis, differential equations, probabilistic equations, analysis of variance, artificial and genetic neural networks are being extensively explored by researchers to develop prediction model for shear strength of soil. Exploring shear strength prediction effectiveness of artificial neural networks (ANNs) and multivariate

regression (MR) is the key aim of this study. Two types of ANNs including multilayer perceptron (MLP) and radial basis function (RBF) , and MR including multivariate non-linear regression (MNR) as well as multivariate linear regression (MLR) , have been used. Five different ANN and MR models comprising various combinations of soil's physical parameters, i.e.: sand content, silt content, clay content, plasticity index (PI) and density (ρ) have been also used for evaluation of prediction accuracy on both ANNs and ML methods. A comprehensive set of data obtained from sites across India. In addition to correlation coefficient (r), root mean square error (RMSE), mean absolute error (MAE) and t-test have been also used for evaluation of prediction accuracy on both ANNs and ML methods. According to this analysis clay content and silt content are the most significant variables contributing in estimation of shear strength. The results of this study indicated that MLP-ANN shows better performance rather than RBF-ANN. These results also indicated that the Levenberg-Marquardt learning rule and sigmoid activation function were found to be appropriate for this problem. Furthermore, MLR shows better performance in prediction of shear strength parameters than MNR models.

Keywords- Shear Strength, Multivariate Regression, Artificial Neural Network

CVL-125
STATE OF ART ON EARTHQUAKE RESISTANT DESIGN OF STRUCTURE USING NEW AGE INSTRUMENT VFD AND MRD

A. P. Chaudhari , N. P. Kataria

*Abstract-*Due to an earthquake life, financial, mental losses and other bad effect are growing. In some condition there is increase in losses due to absence or improper severability of lifeline structure after disaster. So serviceability of lifeline structure (mostly hospital and bridges) after earthquake is more important in earthquake prone zone. Conventional earthquake resistant design will increase strength and ductility but structure will not be serviceable after major earthquake. So, there is a need to find additional way to protect lifeline structure. In this state of art, vibration control of a structure with help of varies new age dampers are discussed. This paper provides classification of control system, basic principle, construction, working, application and placing of Viscous fluid (VFD) and Magneto-rheological dampers (MR).

Keywords- Earthquake, vibration control, Seismic control systems, viscous fluid dampers, MR damper.

CVL-126
ASSESSMENT OF GROUND WATER NITRATE POLLUTION IN RURAL AREA OF AMRAVATI

Dr. N. W. Ingole, P. V. Khandve

Abstract- There are various physical, chemical and biological properties of water such as pH, turbidity, temperature, hardness, dissolved oxygen, total dissolved solids, microorganisms' contamination, and other chemical contaminants of heavy metals. Among this Nitrate and Nitrite is one of the contaminants in surface water as well as ground water. The widespread increases in nitrate concentrations in groundwater have been caused by an increase in the input of nitrogen into environment as a result of human activities. Surface waters are predominantly polluted by nitrate from surface run-off, sub-surface flow or groundwater exchange. Intensive agricultural production, domestic and industrial wastes, sewage and atmospheric nitrogen pollution are considered to be the main sources of nitrate contamination in water. Nitrate contamination of potable water sources is becoming one of the most important water quality concerns in our country. The maximum contaminant level for Nitrate is 45 mg/L as nitrate; it has becoming a special area of concern if concerned in drinking water supplies in excess of 45 ppm. The major health concern of nitrate exposure through drinking water is the risk of methemoglobinemia, or "blue baby syndrome," especially in infants and pregnant women and few other diseases. More than 60 percent of the population of our country uses ground water for their drinking and cooking needs. To understand the situation in Amravati district this study is conducted. It is observed that out of 13 Taluka in 7 Taluka are having Nitrate above permissible limit. In 54 % of Taluka Nitrate Pollution occurs in more than 40% sample. Out of 13 Taluka, 2 Taluka are having Nitrite above permissible limit. In 15% of Taluka are having Nitrite Pollution in more than 20% samples. Out of 100 samples, in 61 samples Nitrate is found below permissible limit 39 samples are above permissible limit. These 39 samples contain Nitrate So that it is dangerous for the public health in Raipur, Bhatkuli, Benoda, Rajura, Mandwa ,Nandgaonkhandeshwar, Januna, Jawara, Jasapur, Mahulichor, Dhanoragurav, Sawangagurav, Yenas, Dhamanagaon railway, Virul(Ronghe), Dhamangaon railway taluka, Daryapur, Kotegaon, Kokarda, Shendgaon, Pimpalgwhan, kapustalniAchalpur, Paratwada, Chandur bazaar, Shirala, Shirajgaon and Talawel from Chandur bazaar, Hiwarkhed, Chanduri, Akoli, Amravati, Badnera and Anjangaonbari. Similarly 100 samples is tested for Nitrite out of which 96 samples are below permissible limit where as 4 samples is above the permissible limit.

So that most of the Taluka are safe from ill effect of Nitrate Pollution in Ground Water. The result of t investigation shows that there is nitrate pollution in some part of rural areas of Amravati district and her require inclusive actions to prevent ill effects of nitrate pollution through ground water consumption by ru peoples.

Keywords- Groundwater, contamination, nitrate, nitrite, water pollution

CVL-128

METHODS FOR NITRATE REMOVAL FROM GROUND WATER

P. V. Khandve, Dr. N. W. Ingole

Abstract- Groundwater is one of the most important sources of drinking water in rural area of India, and urban area maximum of domestic water is procured from ground water. Therefore India is largest extractor ground water in the world. When ground water is used for drinking purpose, contamination in groundwater not looked after seriously. Though groundwater at shallow depth is considered as most suitable for domest use, but due to continuous extraction of groundwater in last decade in uncontrolled manner and groundwat level gone much deeper in aquifer. The quality of groundwater in deeper aquifer varies from place to place an contamination is becoming more concentrated. As per Central Groundwater Board survey, in 387 districts i various states has contaminated groundwater containing arsenic, fluoride, nitrate and iron. In Maharashtra mo: of the districts exceeds in Nitrate contamination above permissible limit of 45 mg/l. Because of this governme has banned the villagers to consume groundwater from such contaminated hand pumps. & tube wells. In Indi for increasing agricultural production huge amount of fertilizers up to 14% of global total is consumed, therefor Nitrate contamination in groundwater is increasing day by day. Concentration of nitrate above 50 mg/l i drinking water generate various health implications such as infant mortality, spontaneous abortion, birth defect: abdominal pain, diarrhea, vomiting, changes in immune system and methemoglobinemia. Because of variou sources of nitrate contamination occurring in groundwater Nitrate removal is one of the emerging challenge There are various methods of removal of Nitrate from wastewater as well as from drinking water. Distillation reverse osmosis, ion exchange, electro dialysis, blending, chemical denitrification are the in-home methods fo removal of nitrate from drinking water. With the advancement in water treatment technologies, adsorption using activated carbon, carbon nanotubes, biological nitrogen and phosphorus removal, membrane techniques are also used now days in many places. Catalytic denitrification, electroctalytic reduction for denitrification denitrification using membrane bioreactor, combined ion exchange & membrane bioreactor for denitrification denitrification using nanofilteration are some of immerging technologies. Reverse osmosis, ion exchange, distillation are the method of nitrate removal requiring high initial cost as well as maintenance cost. On the other hand biological denitrification is promising technology widely used for nitrate removal from municipal wastewater. Despite the development in these technologies, a need remains for a low cost, low maintenance, efficient method to treat nitrate contaminated groundwater.

Keywords- Groundwater Contamination, Nitrate, Nitrification, Denitrification, Nitrate Removal

CVL-129

SEISMIC PERFORMANCE OF RCC BUILDING WITH SHEAR WALLS AT VARIOUS LOCATIONS - A REVIEW

Prof.S.R.Band, Prof. S.A.Deshmukh, Prof. M.S.Mahalle, Prof.P.S.Deshmukh

Abstract- The occurrence of the earthquakes in the world and construction of high rise buildings demands for the construction of earthquake resistant buildings. Many of the tall buildings had collapsed in past earthquakes and the reasons attributed were poor design and construction practices. The high seismic areas may be susceptible to the severe damage in structures. In the seismic design shear walls play a major role in earthquake resisting members. Now a day, shear wall in R.C. structure are most popular system to resist lateral load due to earthquake. Shear wall is a rigid vertical diaphragm capable of transferring lateral forces from exterior walls, floors, and roofs to the ground foundation in a direction parallel to their planes. Shear walls have more strength, stiffness and resist in-plane loads that are applied along its height. Buildings with shear walls which are properly designed give a very good performance Also the positioning of shear wall has influence on the overall performance of the building. For effective performance of building it is essential to provide position of shear wall in an ideal location. In the present paper, studies of various researches were discussed on performance of RCC building with shear wall based on its location.

CVL-130
EFFECT OF FRICTION DAMPER ON SEISMIC PERFORMANCE OF MULTI-STOREYED FRAME STRUCTURE IN HIGH RISE BUILDING-A REVIEW

Siddhant Kishore Laddha, Prof. Riyas Sameer Shah

Abstract-An earthquake is a spontaneous event of shaking ground caused by the passage of seismic waves through earth's rock. Over the centuries they have been responsible for millions of deaths and extensive damages to the property. Now-a-days high rise buildings have become a trend and, moreover, they have paved the way to world competition in constructing tall buildings to exhibit the symbol of power and technology possessed by its population. Structures are mainly subjected to various types of loading conditions such as earthquake, wind loads etc. For earthquake zone areas, the structures are designed considering seismic forces. The structure which are present in higher earthquake zone area are liable to get damaged or collapsed, hence to increase the safety of these structure few protective systems are in the form of seismic isolation system and supplementary energy dissipating device are used to stabilize the structures against the earthquake and wind forces. The mechanical devices are incorporated into the frames of the structure and absorb the energy from the earthquake reduces the drift as well as effect on the critical components of the structures. From the literature study it is concluded that they include different types of dampers like metallic dampers, viscous dampers, viscoelastic dampers, friction dampers etc. however there have been few investigations for the combinations of dampers, its advantages are discussed and a detailed review is carried out. By using the mechanical dissipating devices, it has been found effective and their application form focus of the study.

Keywords-friction damper, response spectrun analysis, high rise building, seismic protective systems.

CVL-131
IMPACT OF LAND USE AND LAND COVER CHANGE ON ECOSYSTEM SERVICES-A CASE STUDY OF NILAWANDE DAM CATCHMENT, AHMEDNAGAR, INDIA

Prof. Shyambhau G. Ban, Prof. Dr. S. S. Shahapure, Ms. Priyanka S Patil

Abstract-Land use refers to human activities carried on land whereas land cover deals with natural vegetation, water bodies, soil, artificial cover and other resulting due to land transformation. The study examines long-term land use/land cover change at a finer scale in a semi-arid region of India. Land use is associated with specific use of land and land cover relates to the type of feature present on surface of the earth. Land use and Land cover responsible for several social, economic and environmental impacts. The present research will consider Land is an intrinsic part of the ecosystem. The measure changes in the ecosystem needed to be studied for the deterministic or probabilistic or reliability of land resource. This requires analysing the impact of land use and landing cover for various purposes.

Keywords-Land use, Land cover, Sediment yield, reservoir sedimentation, Ecosystem services, sedimentation computation.

CVL-132

CREATION OF MODEL OF SMART VILLAGE THROUGH TECHNO-SOCIO ASPECT

Sagar Diwakarrao Malkhede, Suyog Ramrao Dhawade

Abstract-Smart village represents the new engine of growth in global development of knowledge capitalism. Smart village initiative focuses on improved resource-use efficiency, empowered local self-governance, access to basic amenities and responsible individual and community behaviour to build a vibrant and happy society. Now need of the hour is- strategy, integrated planning and above all monitoring and execution of the activities using appropriate governance models.

Keywords- Smart village, Techno-socio aspect.

CVL-133

COMPARISION BETWEEN STEEL PLATE GIRDER AND PRESTRESSED CONCRETE GIRDER ON ROADWAY OVER BRIDGE

Prof. M. Shahezad, Prof. N. R. Bobade

Abstract-Bridge design is an important as well as complex approach of structural engineer. As in case of bridge design, span length and live load are always important factor. These factors affect the conceptualization stage of design. Prestressed Concrete and Steel plate are commonly used for constructing bridges. This project present the comparative study of prestressed concrete girder and steel plate girder for roadway over bridge. This work includes the cost analysis and design of prestressed concrete girder and steel girder. In the good olden days, for higher spans, steel girders whether plate girders or triangulated girders were pre-dominantly used. After the advent of pre-stressed concrete, its use in higher span bridges increased tremendously. Main reason behind use of PSC girders is due to its initial economical cost. No doubt, PSC girders are economical in the initial stage of construction, but the same may not be true if we consider the life cycle cost including other factors. The aim of this work is to design prestressed concrete and steel girder for various span and then compare the result. . Based on the understanding of the manual design procedure, a computer program in MS EXCEL was developed for designing both prestressed concrete and steel plate girder. The goal of study is to determine most favourable option from above two.

Keywords-Prestressed Concrete Girder, Steel plate Girder, Bridge, and Comparative study.

CVL-134

SEISMIC CONTROL OF SKEWED HIGHWAY BRIDGE USING SEISMIC CONTROL SYSTEM

Madhur M. Gupta, Dr. N. P. Kataria

Abstract- Highway bridges play a vital link role in surface transportation network, and their failures not only cause disruption of service but also danger people life. Seismic base isolation is an important technique that is used for reduce the seismic vulnerability by decreasing the seismic demand instead of increasing the seismic capacity. Present work deals with study of response of bridge using seismic control systems. For present study, a two-span prestressed concrete box girder highway bridge is considered and analyzed for seismic forces using SAP2000 software. The seismic response and behavior of Box Girder Bridge is studied by linear time history analysis using Newmark's beta method. For the analysis four different ground motion data selected and scaled for target spectra as per zone IV. The highway bridge is isolated with Lead Rubber Bearing (LRB). The response of bridge system under earthquakes has been compared with the corresponding bridge with and without the isolation system. It is observed that LRB is highly effective for controlling not only the seismic response of the bridge but also include the structural response on the cost of slight increase in the displacement of the deck.

Keywords-skewed Highway Bridge; lead rubber bearing; time history analysis

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CS-102
SECURED PHOTO SHARING IN WEB TECHNOLOGY
Narendra. M. Jathe

Abstract- Sharing photos online is a common activity on social networks and photo hosting platforms, suc Facebook, Pinterest, Instagram, or Flickr. However, after reports of citizens surveillance by governme agencies and the scandalous leakage of celebrities private photos online, people have become concerned at their online privacy and are looking for ways to protect it. Popular social networks typically offer priv protection solutions only in response to the public demand and therefore are often rudimental, complex to and provide limited degree of control and protection. Most solutions either allow users to control who access the shared photos or for how long they can be accessed. In contrast, in this paper, we take a structi privacy by design approach to the problem of online photo privacy protection. We propose a privacy-preser photo sharing architecture that takes into account content and context of a photo with privacy protec integrated inside the JPEG file itself in a secure way. We demonstrate the proposed architecture with a proto mobile iOS application called ProShare that offers scrambling as the privacy protection tool for a sele region in a photo, secure access to the protected images, and secure photo sharing on Instagram.

Keywords- Facebook, Pinterest, Instagram, Flickr, ProShare

CS-103
THE NEXT GEN INTRUCTION PREVENTION SYSTEM FOR WIRELESS LAN
S. V. Athawale, Dr. M.A.Pund

Abstract- Now a day a rapid and instant growth of WLAN, wireless intrusion prevention systems have la become the researcher hotspot. In this paper, we first examine the drawbacks of WLAN and point out the p 802.11- definite threats, then present the wireless IPS with an intelligent pre-decision engine using mobile a technology, specially demonstrate the need for mobile agent detection in WLAN. By importing a suppoi degree of intrusion plan, this engine can predict and avoid the future attacks and directly respond to t actions. We propose an improved model for conducting attack recognition and making pre-deci: Experimental results showed that the mobile agent detection and predecision engine can not only imp detection but also the prevention performance and most reduce false positives evidently in WLAN.

Keywords- Wireless LAN, Intrusion Prevention System, 802.11 WLAN, Threats, Attacks.

CS-104
HANDLING NETWORK SECURITY ISSUES USING AI
Sheetal Thakare, Dr. S. R. Gupta, Dr. M. A. Pund

Abstract- With excessive exposure and use of internet, every system is prone to wide range of attacks. With perspective, Network security is gathering every ones' concern. Network attackers are getting more and i innovative with designs. Exponential growth in attacker's intelligence require mitigation mechanism t updated with same speed and level of innovation. This pans avenues for advanced technologies and metho be employed for handling network security issues. Trending ones are artificial intelligence(AI), mac learning (ML) and deep learning(DL). AI is an umbrella covering ML and DL under it. Main features o making it big deal for network security are capacity to handle big data, faster detection, quick response, at of unsupervised processing. Considering mentioned aspects, comprehensive study of AI approaches in hanc network security issues is been carried out.

Keywords-network security, machine learning (ML), deep learning(DL), recommender systems, artif intelligence(AI)

CS-106
SECURED INFORMATION SHARING IN SUPPLY CHAIN MANAGEMENT: A LITERATUREREVIEW
Priti Ramdas Lale, Dr. Rajesh Purohit

*Abstract-*The concept of security for supply chain and logistics functions has grown significantly in practic well as in research and has emerged as its field of research within SCM and logistics. There are three factors make supply chain security a core set of research goals in the literature on SCS: improving security, ma supply chain processes more efficient, and improving supply chain flexibility. Sharing of data betv

manufacturers, suppliers and customers becomes very important to ensure response to market variability. In particular, dual marginalization is a widespread and serious problem in supply chain management, as it involves the security of multiple parties.

Keywords-Supply chain management, cyber security.

CS-107
ANALYSIS AND DESIGN OF PREDICTION SYSTEM FOR NOISE POLLUTION USING MACHINE LEARNING - A REVIEW

Mr. Abhijeet Ganpat Khadke, Dr. G. R. Bamnote, Dr. S.W. Ahmad

Abstract- Noise pollution is a developing problem now a days. The quickest effect is an illness of human mental health. Now days sleep disorder is a serious cause. Continuous propagation of noise can create frustration. Noise can make a more contribution to cardiovascular effect in human beings. That is a reason it is very difficult to live a healthy life for all. The proposed system work on the methods of Internet of Things (IOT) which is an evolving technology. It will also check the live intensity of generating noise in a particular area and also maintain a log over the internet for further analysis and prediction. The proposed system will be sensing the presence of dangerous noise range. A micro controller will be used to process the noise data and generate reports for authorities to keep a watch and take some precaution over the excessive noise. It will also classify the noise using machine learning algorithm and design prediction system for noise pollution. This system can be used in various areas. It will be used near school, college campus, hospital and no honking area and traffic areas. If more noise found in a particular area or city, it will get reported to the branch.

Keywords-Noise Pollution Monitoring System, Internet of things, Pollution Monitoring, Noise Level, IOT Base Noise Monitoring System.

CS-108
OPEN SOURCE INTELLIGENCE AND TECHNIQUES FOR PASSIVE RECONNAISSANCE IN LINUX ENVIRONMENT

Prof. Vinit A. Sinha

Abstract- Open Source Intelligence (OSINT) or simply Information Gathering, the idea behind passive reconnaissance is to gather information about a target using only publicly available resources. As valuable as open source intelligence can be, information overload is a real concern. Most of the tools and techniques used to conduct open source intelligence initiatives are designed to help security professionals (or threat actors) focus their efforts on specific areas of interest. In this article methods for reconnaissance specially in kali linux are discussed.

Keyword-OSINT, Kali, Linux, Security

CS-109
MULTIUSER NET-BANKING WITH WEB AND ANDROID APPLICATION

Miss. Revti R. Adel

Abstract -Online comprehensive solution is used to manage the internet banking. This paper discusses how to manage Multiuser Net-Banking using Web and Android Application. This application can be accessed by all customers who have valid passwords and user Id. Moreover this system has several other advantages like balance inquiries, fund transfer from one account to another account in a bank, requesting for change of address, check book and stop payment, viewing of annual and monthly statements etc. the internet banking scope includes many features. Firstly, the world becomes a global village with the use of paperless systems and the concept of cashless society is a future hope. With further innovations a more advance cashless transaction can be made affordable and accessible. This application can be used by any bank for providing better customer service. At one click the consumers can access the accounts present in any branches of the same bank. Various new and upcoming plans for bank consumers can be published through this application. It also helps the manager in accessing the account present in the bank as well as reduce the pressure of working for the employer. In rights are provided to the customers through the online system. Global communication can be extended between all the world bank's simply with the use of this outrageous application. We are also providing a mobile app with this net banking platform to access some important features like check balance, To get last mini statement, to request for cheque book and many more.

Keywords- Net- Banking, Security, Multi User Account, Joint Account

CS-110
CLEARANCE MANAGEMENT ONLINE ECOMMERCE SYSTEM
Miss. Shivani V. Dhoke

*Abstract-*The project is about the online e-commerce clearance; in this project we have developed a website which shows the clearance report of the customer purchased product. E-Commerce is a methodology of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the speed of delivery. Our website is helpful for the making the customer and the business interactive. The recommendation are also stored in the database. To let other customer know about the product. Our website support both online and offline payment. In the online payment the card details of the customer is being verified and the payment is done. The payment which is done online will be showed as paid, the payment which is done offline will be shown as unpaid. The user panel will get the clearance report of themselves only while the at the admin panel all the customer report will be shown.

We have developed an online e-commerce site it makes the user relation more transparent with the company. Storing the recommendation of the user and then generating the sorted results when the user searches the particular product. And due to this the user will get all the products which are liked by other also. The clearance report will help the customer to get the current status of the product and the history of the purchased product. The pending, paid, unpaid status of the purchased product is show on our site at the admin panel.

CS-112
HEART DISEASE PREDICTION USING DIFFERENT DATA MINING TECHNIQUES
Swara D. Joshi, Tejaswini G. Gawande, Gunjan A. Gandhe, Yash R. Bhise

*Abstract-*In this age of computer science each and every thing becomes intelligent and perform task as human. For that purpose, there are various tools, techniques and methods are proposed. Support vector machine is a model for statistics and computer science, to perform supervised learning, methods that are used to make analysis of data and recognize patterns. SVM (Support Vector Machine) is mostly used for classification and regression analysis. And in the same way k-nearest neighbor algorithm is a classification algorithm used to classify data using training examples. In this paper we use SVM and KNN algorithm to classify data and get prediction (find hidden patterns) for target. Here we use medical patient's nominal data to classify and discover the data pattern to predict future disease, uses data mining which is use to classify text analysis in future.

CS-115
SMART ELECTRIC BILL PREDICTOR
Mayuri P. Deshmukh, Mr. Kuldeep Ratawa, Siddhant S. Dandale

*Abstract-*There are many problems in metering and billing processes like meter reader has to visit each customer meter to manually record the meter reading, the probability of the non-existence of the customers at their homes during that time, the lack of integrity and credibility of some of the meter readers, the safety and the outback areas represent a huge drawback, which cannot be neglected. In other hand, the traditional energy meter suffers from well-known measuring errors. This Smart Electric Bill Predictor System provides an excellent solution to traditional meters problems where the system will design based on the use of energy smart meter to read electrical energy consumed to get an accurate reading. Then the energy reading is sent to the control center in the electricity department based on GSM/SMS technology. The electricity department receives readings and makes processing operations and extracts the customer bills. The Smart Electric Bill Predictor sends a message to the customer mobile phone to keep the track of electricity usages, which contains the current bill, due bill, and total bill every two months have to be paid. The proposed system willhavethe ability of automatic power outage if the customer refrains or delays for certain time in paying the bills by means of an SMS.

CS-116

SMART TOLL BOOTH

Vivek V. Bhopale, Priti V. Kadu, M. Ghazi Khan

Abstract-The World is aware that development of a country depends upon its basic infrastructure. An express highway is one of them, we experience a long queue at each toll plazas on expressway which wastes a lot of journey time, fuel and emissions of CO2. As of now, at each toll both the vehicle has to stop for paying the toll. A System is proposed that would pay the toll automatically and reduce the queue at the toll booth.

For the purpose of auto system, the image of the vehicle number plate and its class is important. In this system a high resolution camera is used for capturing the image of the vehicle number plate. The captured image would be converted into the text using LPR and the toll would be cut from the customer's prepaid balance account or he will pay the toll using online payment. After successful payment the gate would automatically be opened when the vehicle reaches Toll Booth.

Keywords- License Plate Recognition (LPR), Application Programming Interface (API)

CS-117

SECURITY ATTACKS DETECTION IN CLOUD USING MACHINE LEARNING ALGORITHMS : A SURVEY

Monika V. Nanane, Ankit R. Mune, Mrunal G. Khandade

Abstract- Cloud computing is an evolving technology that provides reliable and scalable on-demand resources and different services to users with fewer infrastructures cost. Even though the cloud has many advantages it faces many drawbacks like vulnerability to attacks, network connectivity dependency, downtime, vendor lock-in, limited control. From the above-mentioned disadvantages, a security attack is the main drawback in the cloud. There are various security attacks like Denial-of-service (DOS) attack, SQL injection attack, Side channel attack, Man-in-the-middle attack, Authentication attack. To detect this attack in the cloud the machine learning algorithm like Support vector machine (SVM), Naive Bayes, Decision tree, Logistic regression, Ensemble methods can be used. We will mainly focusing on various security known and unknown attacks in the cloud such as Authentication attack, SQL injection attack and Denial of service attack.And the machine learning algorithms such as Support vector machine is used for detecting these attacks.

Keywords- Security attacks, Machine learning algorithms, Detection.

CS-120

BLOCKCHAIN BASED SECRETE KEY AND TRANSACTION STORAGE SYSTEM FOR DOCUMENTS STORED ON CLOUD

Ms. Kaushiki Tapadiya, Mr. Krishna Gupta, Prof. Poonam Lohiya

Abstract- Cloud document storage is becoming very popular, cost efficient and secure nowadays. Though cloud is very cost-efficient storage, the documents are accessible to service providers. Many literatures are available for document security in cloud. In most of the literatures, document encryption technique is described using different algorithms. Encrypting documents before storage is a good idea, but if encrypted documents as well as the secrete keys both are maintained on cloud server only, there is a possibility of leakage as the cloud service provider is an honest but curious entity. So, it can be a big risk if we maintain documents as well as their keys on cloud. On the other hand, if we apply unbreakable encryption on documents before storing on cloud then the searching over documents will be critical. Therefore, in this paper we focus on cloud document security as well as searching over cloud documents using AES algorithm, Caesar algorithm and blockchain technology.

Keywords-Blockchain, Cloud Computing, Advanced Encryption Algorithm, Ceasar Algorithm, public key, transaction management

PERFORMANCE COMPARISON OF RULE BASED CLASSIFIER: JRIP AND DECISIONTABLE USING WEKA DATA MINING TOOL ON CAR REVIEWS

Dr. S. R. Kalmegh, Mr. S. A. Ghogare

Abstract-Today Huge amount of data generated over the internet. The WEKA is data processing tool contai organized collection of state of art machine learning algorithm. However, convenient interactive graphical use interfaces are provided for data exploration, for setting up large-scale experiments on distributed computin platforms, and for designing configurations for streamed data processing. This paper has been carried out t make a performance evaluation of JRip and DecisionTable Rule based classification algorithm. The paper set out to make comparative evaluation of two Rule based classifiers from WEKA, JRip and DecisionTable in th context of dataset of car reviews to maximize true positive rate and minimize false positive rate. The WEK/ tool used for result processing.The results in the paper on dataset of car reviews also show that the efficienc and accuracy of JRip is excellent than DecisionTable for Test mode Training Set.

Keywords-Classification, Data mining, Decision Table,JRip, WEKA.

COMPARATIVE STUDY OF DIFFERENT HIGH UTILITY PATTERN MINING TECHNIQUES

Ms. S. S. Naghate, Dr. Mrs. S. S. Sherekar, Dr. V. M. Thakare

Abstract- mining high utility pattern is an important research area in data mining. Several business application: have been found to benefit from the discovery of high utility itemsets and association rules from transactior databases. A comprehensive survey and study of various methods in existence for high utility itemset mining association rule mining with utility considerations have been presented in this paper. In these, the variou: mining techniques are used such as Incremental Mining of High Utility Patterns, High Average-Utility Patterns with Multiple Minimum Average-Utility Thresholds, Using Bio-Inspired Algorithms, Algorithm for Incrementa and Interactive High Utility Itemset Mining, using Temporal-Based Fuzzy Utility Mining. However there are some issues that need to resolve these are discussed in this paper. Various algorithms are studied for the comparative analysis of high utility pattern mining algorithms and new method is proposed.

Keywords- High utility pattern mining, frequent itemset mining, fuzzy utility mining, utility threshold.

SURVEY OF RECENT TRENDS IN BLOCKCHAIN TECHNOLOGY

Nilima V. Pardakhe, Dr. Vaishali M. Deshmukh

Abstract-The technology has reached such level that the modern Internet deals with assets of real life. People want everything in a smart way. Nowadays, there is no longer any doubt about a digital world. This will be a world of AI, robots will replace human completely in the work force. A world of smart houses, smart cities, smart countries, where everything has the ability to connect to the internet (IoT), bringing the real and digital world closer together. Along with other advanced technologies (AI, AR/VR, IoT), Blockchain technology has established a way to digitize all of our activities through cloud based development. Blockchain is a shared public ledger, and it includes all transactions which are confirmed. It is almost impossible to crack the hidden information in the blocks of the Blockchain. However, there are certain security and technical challenges like scalability, privacy leakage, selfish mining, etc. which hampers the wide application of Blockchain. Blockchain is rapidly evolving to be the next disruptive innovation for secured connectivity, promising major changes to how we work and live in the coming century. This paper will highlight the important role of blockchain technology in the development of our future world and survey of recent trends in blockchain technology.

Keywords-Blockchain, Decentralization, Internet of things, Smart contracts, security

AN OVERVIEW OF CYBER FORENSIC APPROACHES FOR CYBER SECURITY AND DATA SECURITY

M.G.Tingane, M.S.Ali, A.P.Bhagat

Abstract- Cyber Forensics is fairly new as a scientific discipline and deals with the acquisition, authentication and analysis of digital evidence. Although it is a relatively new field, the challenges and opportunities changed

dramatically. Technology in general and computers specifically, since their introduction and dissemination into mainstream society, have benefited society, there is also a sinister, dark side to this technology when it is abused. In recent years, society has seen the rise in abuse of various kinds— personal or private and corporate, is becoming a reality. Therefore, it is important to continually study and improve all dimensions of cyber defense. For this purpose different systems, which deals with the detection of new unknown malicious attacks are reviewed in his paper. This paper deals with the comparative analysis of different detection techniques use in forensic analysis like unknown malicious microsoft office documents, geolocation, process memory investigation of the bitcoin clients electrum and bitcoin core, common database forensic investigation processes, network flow watermark for data exfiltration traceback, object-dependent methods to analyze the evidence of illegal activities, Identity-Based integrity auditing and data sharing, e-Supply chain digital forensic readiness systems, automated keyword extraction, dynamically analyzing and monitoring obfuscated android applications, analyzing chat logs using data mining and natural language processing techniques, forensics and deep learning mechanisms for botnets in Internet of Things, machine learning system for Cyber-Attack detection in Large-Scale Smart Grids, framework for detecting manipulated smartphone data, location-based social network homogenous network model etc. Both physical and remote attacks are considered in this analysis.

Keywords- Cyber Forensic, Malicious Attack, Cyber Defense, Forensic Analysis, Cyber-Attack Detection

CS-125

MERGING AI WITH BLOCKCHAIN FOR SECURE ENVIRONMENT FOR DATA SHARING

Ms. Yogita S. Alone, Dr. G. R. Bamnote

Abstract- Artificial intelligence and blockchain are among the most problematic advancements and will on a very basic level reshape how we live, work, and collaborate. Blockchain can be profoundly financially savvy in taking out the requirement for a brought together expert to administer and check cooperations and exchanges among a few members.In blockchain, each exchange is cryptographically marked and confirmed by all mining hubs which hold a copy of the whole record which contains anchored squares all things considered. This makes a safe, synchronized and shared timestamped records that can't be adjusted. Another noticeable field that is increasing enormous footing is counterfeit intelligence(AI) which enables a machine to have intellectual capacities to learn, surmise, and adjust dependent on information it gathers.

Keywords- Artificial Intelligence, Blockchain, Data sharing

CS-126

AN OVERVIEW AND APPROACH FOR HYBRID IMAGE ENCRYPTION AND COMPRESSION

Prof. Kalyani H. Deshmukh, Prof. Pratik S. Deshmukh

*Abstract-*In an image processing, for proving security to an image many encryption techniques are available. But most of the Encryption techniques mask some amount of data to the source image that always increases the size of image. Encryption makes it difficult to transmit an image through bandwidth constrained channel. To overcome this problem, Image Compression can be applied on the Encrypted image to reduce its size. This paper presents the analysis and overview of some prominent approaches which are relevant to the image encryption and compression. It also discusses an approach to perform joint encryption and compression on image. The scope of implementation for the derived idea exists. Some analytical analysis is also presented from the proposed approach implementation point of view.

Keywords- image compression; image encryption; auxiliary image data; Huffman encoding

CS-127

REVIEW ON GENETIC ALGORITHM AND MACHINE LEARNING

Ms. Rupali A. Meshram, Dr. A. S. Alvi

Abstract- Genetic Algorithms (GAs) are a type of optimization algorithms which combine survival of the fittest and a simplified version of Genetic Process. Machine Learning provides ability to automatically learn and improve from experience without being explicitly programmed. It uses the data set to train the machine. Genetic Algorithms are used in various fields where Machine Learning algorithm also used. This study shows some examples where this both Genetic Algorithm and Machine learning Algorithms are used to get the best accuracy

for model. Literature survey briefly provides the applications of Genetic Algorithm and Machine learning Algorithms in various fields. This study is fruitful for new researchers to get the basic background about the Genetic Algorithm and Machine learning with its recent application that are currently used in various fields like robotics, wireless network, agriculture, medical, banking, gaming, finding shortest path on map, environment resources etc..

Keywords-Genetic Algorithm, Machine learning, Support Vector Machine, Extreme Learning Machine

CS-128

IOT BASED SMART HOME MONITORING SYSTEM USING RASPBERRY PI

Ms. K. S. Gulghane, Dr. Mrs. S. S. Sherekar, Dr.V.M.Thakare

Abstract- One of the most dynamic and exciting developments in information and communication technology is the advent of the Internet of Things (IoT). Automation can make work more smart and easy. This paper is focused on five different techniques such as home automation system using software defined networking (SDN) based firewall, by using Near Field Communication (NFC), client – server based home automation system, home automation using Zigbee wireless sensor communication technique and home automation technique with real time E-metering using E-controller etc. Even though, some issues arising in every method which are critically analyzed in this paper to improve these issues. The paper has proposed a new home automation technique with the use of IOT, so as to reduce the existing problems and make home automation more smart and secure.

Keywords-Internet of Things (IOT), Home automation system

CS-129

MISSING TAG DETECTION WITH RFID TRAFFIC MANAGEMENT

Ms. A. A. Jaisingpure, Dr. Mrs. S. S. Sherekar, Dr. V. M. Thakare

Abstract- The most important applications of radio frequency identification (RFID) technology is to detect the missing tag. Missing tag detection problem is arising in multiple-group, multiple-region in radio frequency identification (RFID) systems. Traffic management is the better understanding for performing operation in missing tag detection. This paper focuses on analysis of different five techniques and application such as On missing tag detection, Piece-wise constant models for RFID traffic, Enhanced RFID tag detection accuracy, Efficient unknown tag detection in large-scale RFID systems and Distance bounding. But there are some issues to address in these methods. These issues are discussed in analysis and discussion. To overcome these problems, the paper proposes modified approach to detect the missing tag with RFID traffic management system.

Keywords-Missing tag, RFID, detection system, traffic control.

CS-130

VEHICLE MONITORING SYSTEM

Mr. Nishchal R. Shrirame, Mr. Shubham U. Adokar, Prof. Swapnil V. Deshmukh

Abstract- "IoT" is currently the most popular aspect of the research field. They consist of an extremely large amount of data to be researched. The data it holds is secured with privacy protocols. "The Vehicle Monitoring System" for vehicles helps in maintaining vehicle and also protect from accidents due to engine overheating as well as tire bursting. It uses wireless communication mode for communicating with the cell phone of the device user. This paper presents the review of the tire pressure monitoring, engine overheat monitoring, accident detection system and CO_2 exhaust detection system. This system is helpful for maintaining vehicles and to protect vehicles from accidents and to detect the accident if it happens. The communication of the system with the authorized cell phone will be done with the help of the GSM module which is present inside the device.

Keywords-monitoring, microcontroller, detection, bursting.

CS-131

SURVEY OF ASSISTIVE TECHNOLOGY FOR THE VISUALLY IMPAIRED AND BLIND PERSONS

Gaurav B. Saboo, Ankush R. Deshmukh, Sumedh P. Ingale

Abstract- Assistive technology is any device, software or equipment that is used to help individuals with disabilities. A report prepared by WHO indicates that globally the number of people of all ages virtually impaired is estimated to be 285 million, of whom 39 million are blind. For a number of years researchers have developed assistive technology for overcoming difficulties and challenges faced by visually impaired and blind person. This paper provides survey of recent developments in audio and tactile feedback based assistive technologies which are developed for blind person. Due to recent development in the technology, applications now can be developed and run on mobile and portable devices. As a result, electronic travel aids, navigational assistance modules, text-to-speech applications, as well as virtual audio displays which combine audio are becoming integrated into standard mobile devices. This move, combined with the user-friendly GUI and modes of interaction has opened new door for the development in visually impaired and blind person. This paper will help new researcher to future research in mobile interaction design with respect to users with special needs.

Keywords- Assistive Technology, Visually Impaired, Blind Person.

CS-132

THE ANALYSIS OF USER BEHAVIOUR IN WEB APPLICATIONS AND NETWORK SECURITY

Miss. R. S. Maldhure, Dr . S. S. Sherekar, Dr. V. M. Thakare

Abstract- Nowadays, more and more online services, including web pages, as well as some client applications which are based on web services, security problems based on web applications become more serious. Most intrusion detection systems are based on every single request to find the cyber-attack instead of users' behaviors. In order to detect newly developed attacks, the system analyze web logs from web servers and define users' behaviors to divide them into normal and malicious ones. Anomaly detection method of user behavior is used to detect the internal attackers of database system. With using Discrete-time Markov Chains (DTMC), an anomaly detection system of user behavior is already proposed, which can detect the internal threats of database system. The experimental results show that this detection system can detect normal and abnormal user behavior precisely and effectively. These Previous research propose a novel method of user behavior analysis in semantic network. Using the weight value to analyze and record user behavior and then check user behavior record with the signatures which are generated by the Intrusion Detection System (IDS). Fuzzy expert system enables it to identify user behaviors and categorize suspicious behaviors with various levels of intensity. The method proposed in this paper is "Network Security Based On The Analysis Of user Behaviour For Web Applications".This proposed methodology gives an attention on Web usage mining to predict the behavior of web users based on web server log files.

Keywords- Intrusion Detection System, Fuzzy expert system, web logs, anomaly detection users' behaviors, security, network security, cyber security, SIEM, program for detecting the abnormal behavior of users.

CS-133

DISEASES CLASSIFICATION WITH GENETIC ALGORITHM FOR SUPPORT VECTOR MACHINE USING HADOOP

Prof. Shrikant P. Akarte, Dr. G. R. Bamnote

Abstract- This paper proposes classification method based a genetic algorithm (GA), for many real imbalanced data sets, which has a very small number of different objects and a large number of certain type objects. Support vector machine (SVM) which is a normal classification method, do not work well for these skewed data sets. Mainly this work is focused on classification of medical disease by the combining genetic algorithm and support vector machines (SVM) which is a feature selection technique. For higher performance SVM is best than traditional learning methods in many applications and SVM is relatively a novel classification technique. To increase the overall performance of SVM we use combination of GA and SVM. The proposed method has better classification accuracy compared with the other popular classification algorithms for several skewed data sets.

CS-134

A PRACTICAL APPROACH SCHEMA OF PRIVACY PRESERVING IN DATA STREAMS

Miss A. G. Raut, Dr. S. S. Sherekar, Dr. V. M. Thakare

Abstract- Recently, data mining over transactional data streams has become an attractive research area. However, releasing raw transactional data streams, in which only explicit identifying information must be removed and may compromise individual privacy. Many privacy-preserving approaches have been proposed for publishing static transactional data. Due to the characteristics of data streams, which must be processed quickly, static data anonymization methods cannot be directly applied to data streams.

Shadow Coding is use to preserve the privacy in data transmission and ensure the recovery in data collection, it achieves privacy preserving computation in a data-recoverable, efficient, and scalable way. This paper provide practical techniques to make Shadow Coding efficient and safe in data streams.

*Keywords-*Transactional data streams , Shadow coding.

CS-135

A REVIEW ON SECURED IMAGE SHARING AND PRIVACY PRESERVING IN SOCIAL NETWORK

Miss Neha K Chede, Prof. S. V. Dhopte

*Abstract-*Today we live in a world where everything is connected to the Internet and the social networks play an important role in our lives. The security and privacy of users is an essential factor of users in the social network. Multitudes of pictures are uploaded daily to social networks and, with them, parts of our private life are disclosed. With the development of social media technologies, sharing photos in online social networks has now become a popular way for users to maintain social connections with others. However, the rich information contained in a photo makes it easier for a malicious viewer to infer sensitive information about those who appear in the photo. How to deal with the privacy Disclosure problem incurred by photo sharing has attracted much attention in recent years. When sharing a photo that involves multiple users, the publisher of the photo should take into all related users' privacy into account. In this work, we propose a practical solution for secure photo sharing on social network with independence of its architecture which can be either centralised or distributed.This solution solves the inconsistencies that appear in distributed social network as a consequence of treating photos and access policies separately. Specifically, we solve this open problem by attaching an access policy to the images and thus, each time a photo is re-shared, the access policy will travel together with the image. In this paper, we explore and propose the design of a privacy-preserving photo sharing architecture, which ensures users privacy and at the same time preserves the usability and convenience of online photo sharing activity.

CS-137

A REVIEW ON DATA INTEGRITY AUDITING WITHOUT PRIVATE KEY STORAGE FOR SECURE CLOUD STORAGE

Miss. Pradnya G. Kalbande, Prof. S. S. Kulkarni

Abstract- Using cloud storage services, user can store their large amount of data such as confidential documents, mails etc in the cloud to avoid the expenditure of local data storage and maintenance. So that cloud server is mostly being used, to ensure the integrity of the data stored in the cloud. However data security is one of the major barriers to adoption in cloud storage. In multinational companies, employees can share their data such as files, documents, mails and so on. Even user can able to upload their data on cloud storage without worrying about to check or verify integrity. User can store data and used on demand .User needs to employ his private key to generate the data authenticator for realizing the data integrity auditing. Thus user needs to store his private key and also memorize the password to activate the private key. But sometimes private key and password will be forgotten or hack by third party. In order to overcome this problem, we proposed a new paradigm called Data Integrity Auditing without Private Key Storage for Secure Cloud Storage and design such a scheme. In this, we use digital signature scheme in order for the websites, security organizations, banks and so on to verify user's validity

Keywords- Cloud storage, data integrity auditing, Digital signature scheme

<div align="center">CS-138</div>

IDENTIFYING TAGS AND TRENDS BY OPINION ANALYSIS OF SOCIAL MEDIA DATA ABOUT CURRENT INDIAN ECONOMY: TEXT MINING A PPROACH USING WORD CLOUD

Roshan R. Karwa, Dr. Sunil R. Gupta

Abstract- Social media which includes Twitter, Facebook, Whatsapp, Instagram, Linkedin etc. facilitate users to create and share content. In today's era, People expressed their opinions on Social Networking that comprises the use of the internet to unite social media user with their friends, family and Peers. Ease of Access in Internet brings large quantity of users engages in the conversation in form of Comments, Posts or tweets. This paper mainly focused on post which is posted on Social media, mainly Twitter. Analysis of these data is very important and crucial to get aware about recent trends. Analysis of opinions helps in to predict future trend which is helpful in several application such as election, reviews, feedback. If analysis is visual representation instead of number then it becomes easier to understand trend. *Keywords-* Opinion, Social Media Analytics, Word cloud, Indian Economy

<div align="center">CS-139</div>

A NEW APPROACH FOR SOCIAL MEDIA NETWORK PRIVACY PROTECTION USING DATA MINING

Ms.P. S. Khorgade, Dr. Mrs. S. S. Sherekar, Dr. V. M. Thakare

Abstract- Online Social Networks (OSNs) have become an important part of daily digital interactions for more than half a billion users around the world. Privacy protection model uses type, frequency, and initiation factor of social interactions to calculate relationship strength. This model minimum real-life interaction patterns and makes online social networks more privacy friendly. Social media provided user with a social sharing platform, they can interact with their friends by intentionally sharing their comments /rating on items, block, photos, videos or real time locations. Users in the same social circle (group) have similar behavior, such as similar education background, hobbies, and similar privacy references.

The proposed approach to recommend privacy policies for newly uploaded data items or newly added contacts. And facilitate online social network users to group their contacts into social circles with common interests. The proposed social interaction-based audience segregation model for online social networks.

Keywords- Social media, Social network, Security, Privacy protection.

<div align="center">CS-140</div>

RFID BASED INDOOR TRACKING SYSTEM

Prof. Anand Chaudhari, Shreyash Bhoyar, Kaushik Bhorjar

*Abstract-*The concept of RFID systems has been available for a long time, yet only recently has its potential been recognized in applications of ever-growing demand. The recent popularity of RFID technology is due to its fundamental properties that characterize the production, deployment, and functionality of RFID systems. Radio Frequency Identification (RFID) has been considered as a cost-effective alternative for indoor tracking. It gives the ability to track objects in a certain area specially in an indoor premise. RFID uses tags which uses a radio frequency to transmit its location to a RFID reader. The readers also have their own frequency which after interaction with the tag's radio frequency can read the data stored in the tags. RFID based Tracking System is designed to track a moving personnel in a indoor area, such as a office premises, college department or college campus. Existing positioning technologies such as GPS does not provide the feature of indoor tracking. The proposed system has hardware and software components. Challenge for detecting human beings in big institutions. Whenever we want to find someone in mobile prohibited area, it is difficult to find them within a short period. This kind of circumstances can be avoided by using RFID technology. This report proposes a method that enables indoor location tracking of personnel by utilizing RFID technology. RFID technology is often leveraged to realize location in a reasonable, power efficient and user friendly manner.

CS-141

A SYSTEM TO DETECT ANOMALY IN LIVE FEED OF AUTONOMOUS DRONE SURVEILLANCE USING COMPUTER VISION APPROACH

Sachin S. Deshmukh, Dr. M. S. Ali, Dr. D. G. Harkut, Vikram M. Kakade

Abstract- Now a days, every city in the world has installed CCTV cameras for the monitoring the crowd and for public safety. But as these cameras are increasing, it has become difficult to manually monitor the feed which is received from these cameras. Also CCTV cameras are stationary, which is making them capturing the footage from particular angle while monitoring a place. These problems can be overcome by using the autonomous drone technology. By virtue of recent industrial developments, drones are increasingly employed in various domains. They can also be employed for surveillance as moving cameras. But again the problem of autonomous drone surveillance is that, it can only fly around without human interaction and transmit the live feed. It cannot interpret what is in that live feed. The solution to this problem is Computer Vision application through Deep Learning approach. Deep learning is a trend field of Computer Science which is helping to solve the problem like to autonomous car, detection of cancer cell and many other applications where it can possibly replace human eyes to see and interpret the data. In this paper, we are proposing a system design which will make use of the deep learning to detect the anomaly in the live feed received from an autonomous drone. The suggested anomaly detector system makes use of a deep neural network composed of a convolution neural network and a recurrent neural network, trained using supervised learning. Although we have not implemented a system but our main aim is to promote research efforts to resolve the impenetrability of anomaly detection in live videos.

Keywords- Anomaly detection, Deep Learning, Drone, Surveillance, Computer Vision

CS-142

DECENTRALAND – A BLOCKCHAIN BASED MODEL FOR SMART PROPERTY EXPERIENCE

Prof. A. A. Chaudhari, Disha Laddha, Madhulika Potdar

Abstract- To allows crowd to buy or sell VR experiences in which you could be rocking out at a live concert, meeting up with a celebrity, learning about the pyramids from an ancient Egyptian or blasting through space while fighting off aliens. Interestingly, this platform is also planning a overview property experience with other features like dating, treat a get together meet, so we guess this will work like Tinder, with the added bonus of treating your date to some VR experience. Basically Block chain's ability to track products can improve crisis handling. Here the decision for the investment for maximum profit on available owned lands property. By purchasing LAND through the block chain, an immutable record of ownership is created, while smart contracts track all modifications. Once you own LAND, then it's yours to do with as you choose build houses and businesses, hang out with friends, listen to music, race cars or even go swimming with dolphins.

The best possible solution will be provided the interactive approach to deal with the owned land in context of profitable view. The aim is to used augmented reality based algorithm with block chain technology in utilizing property/land in its optimized way can be easily predicted.

Keywords- Augmented & Virtual Reality, Block chain, Property, Land

CS-143

IOT SECURITY USING MACHINE LEARNING

Prof. Swapnil V. Deshmukh Miss. Sonali S. Kathale Miss. Bhavana B. Bande

Abstract- "IOT" is becoming the most popular amongst the world. The internet of things enables everyone to be connected anywhere and anytime."The IOT Security using Machine Learning" for IOT devices helps in protecting and securing devices from various attacks. Machine learning techniques, which are able to provide embedded intelligence in the IoT devices, are provided with different security problems. This paper presents the review of the security solutions using machine learning. Machine learning is a field of study that allow computers learning from past experience to enhance future execution.

Keywords- security, methods

CS-144

A NOVEL APPROACH TO DESIGN THE INTELLIGENT TECHNIQUE FOR INTRUSION DETECTION IN CLOUD

Dr. Devendra P. Kale, Dr. V. M. Thakare

Abstract-In the cloud computing, security mechanisms are not mature enough to protect the data stored in the cloud. Hence, it is necessary to propose efficient methods for providing security to the data stored in the cloud. An intrusion detection system is dynamic software for cloud networks and databases that provides security for different network infrastructures and it can be extended easily. It is used to spot the mean users who violate their system privileges and become intruders. An intrusion detection system developed for securing the computer networks is monitored by the network traffic. In this paper, an Intrusion Detection System which is capable of identifying various kinds of attacks on cloud databases in public cloud is planned and executed. The intrusion detection is performed by proposing a new algorithm which has been designed and implemented by integrating Naïve Bayes classifier with Support vector Machines (SVM) using intelligent agents. The proposed system includes a new prevention module where prevention of intruders and malicious users are carried out using an intelligent decision manager that performs inference by sacking some rules.

Keywords-Security mechanism, Intrusion Detection System, cloud database, Support vector Machines.

CS-145

MULTI ACCESS EDGE COMPUTING TECHNOLOGIES FOR HETROGENEOUS INTERNET OF THINGS

Prof. Ankur S. Mahalle, Prof. Snehal H. Kuche, Prof. M.A.Deshmukh

Abstract-The Internet of Things (IoT) means to interconnect large numbers of heterogeneous devices to present advanced applications that can develop our quality of life. The days when the Internet was the only center of the information society have already gone, and modern network patterns such as IoT, cloud computing, Smartphone networks, social networks, and industrial networks are gaining popularity and creating themselves as indispensable ingredients of the future smart universe. Multi-access edge computing (MEC), known by many by its previous name, mobile edge computing, is a network architecture that gives network operators and service providers cloud computing capabilities as well as an IT service environment at the network frame. Heterogeneous Internet of Things (HetIoT) is an promising research field that has strong prospective to transform both understanding of fundamental computer science principles and future living. HetIoT is being utilized in increasing number of areas, such as smart home, smart city, intelligent transportation, environmental monitoring, security systems, and advanced manufacturing.

Keywords- 5G, IoT, MEC

CS-146

REVIEW OF FUZZY EXPERT SYSTEM DESIGN FOR DIAGNOSIS OF LIVER DISORDER

Rohit K. Tiwari

Abstract- In this paper various methodologies proposed for the diagnosis of liver disorder using Fuzzy Expert System for medical diagnosis problems are reviewed. It also characterizes its advantages and problems in the context of the medical background. Literature survey indicates that human diagnostic capabilities are worse when it comes to accurate diagnosis. It is also found that Fuzzy expert diagnostic systems has shown promising results.

In this paper, paradigm of Fuzzy Expert System is shortly introduced. The main problems of medical database and the basic approaches for diagnosing liver by using medical data are described. Additionally, the problem of detecting damaged liver and its results are given. The Fuzzy approach using Mamdani inference method is presented. Finally, as a case study of liver diagnosis rule based expert system with input and output membership functions are described. The results presented in this paper are very promising.

CS-147

DESIGN OF MODEL FOR DATA SECURITY IN CLOUD COMPUTING ENVIRONMENT

Himanshu Kale, Pravin Nerkar, Rupesh Hushangabade

Abstract- Using cloud storage, users can remotely store their data and enjoy the on-demand high-quality applications and services from a shared pool of configurable computing resources, without the burden of local

data storage and maintenance. However, the fact that users no longer have physical possession of the outsourced data makes the data integrity protection in cloud computing a formidable task, especially for users with constrained computing resources. However, when outsourcing the data and business application to a third party causes the security and privacy issues to become a critical concern. Throughout the study at hand, the authors obtain a common goal to provide a comprehensive review of the existing security and privacy issues in cloud environments. This paper will discuss security issues in cloud computing and propound a new solution to secure data storage in the cloud environment.

Keywords- security, cloud computing, virtualization, distributed collaborative services, data encryption.

CS-148

A NOVEL APPROACH TO ARTIFICIAL INTELLIGENCE FOR EFFECTIVE KIND OF CYBER SECURITY

Gaurav K. Wadnere, Aditya O. Sable, Smeet D. Thakur

*Abstract-*Cyber infrastructures are highly vulnerable to intrusions and other threats. Physical devices and human intervention are not sufficient for monitoring and protection of these infrastructures. Cyber security is the main concern for today's digital world, there are still uncertainties about the impact of AI. Corporates and government sectors are trying to master AI and Machine Learning for the protection of data and creating more opportunities in the respective field. AI allows you to automate the detection of threat and combat even without the involvement of the humans. Controlling your data to stay more secure than ever. Since AI is totally machine language driven, it assures you complete error-free cyber-security services. Researchers have also started to put more resources than ever for boosting AI driven technologies. It is also playing a significant role in the ongoing fight against cybercrime. This paper focuses on current artificial intelligent(A.I.) techniques that could help in developing a better threat detection algorithm to secure information.

CS-149

A SURVEY ON DIFFERENT TECHNIQUES IN ARTIFICIAL INTELLIGENCE THAT CAN BE ENFORCED IN CYBERSECURITY

Nikhil S.Band, Shilesh P.Thakare, Avinash G.Mahalle

*Abstract-*AI is a branch of Computer Science concerned with the study and creation of computer systems.AI is a study of how to make computers do things which at a moment, people do better. Today businesses using modern technologies like cloud, big data, mobile, and social media. Although these technologies unlock a whole new set of capabilities and rewards for businesses, they also expose them to to hitherto unknown risks. when hackers would deploy adware, malware, Trojan viruses, phishing attacks or standard keyloggers on private systems for small gains, the focus of hackers and cybercriminals has shifted from individual users to big businesses and corporations since they make for more lucrative targets. But financial rewards are not the only motive behind cyber-attacks. Gaining access to sensitive data and using it for illegal purposes, cause enterprises far more damage, not only in terms of financial losses but also hurting the reputation they have painstakingly built over several years. now, before cyberattack occurs it will be prevented by using modern technology. This paper proposes techniques to prevent cyber attacks by the development of cybersecurity skills and how artificial intelligence can be implied to improve skills through the use of artificial neural networks and machine learning algorithms.

Keywords- ArtificialIntelligence, Cybercrime, Cyber-attacks, Cyber Security, Artificial Neural Networks and Machine Learning Algorithms.

CS-150

ADAPTIVE COMPUTER STRATEGIES IN GAME PLAYING USING ARTIFICIAL INTELLIGENCE

Rupesh Hushangabade, Sneha Kalbande, Nupoor Yawale

Abstract- Computer games are an progressively more popular application for Artificial Intelligence (AI) research, and on the contrary AI is an increasingly accepted trade point for commercial games. while games are usually related by entertainment, there are many "serious" applications of gaming, together with military, corporate, and advertising applications. There are also supposed "humane" gaming applications for medical training, educational games, and games that reflect social awareness or believer for a cause. Game AI is the attempt of going away from scripted communications, though complex, into the arena of accurately interactive systems that are approachable, adaptive, and intelligent. Such systems discover about the player(s) during game

play, adapt their personal behaviors away from the pre-programmed set provided by the game author, and interactively expand and provide a comfortable experience to the player(s).(AI) is the capability of a digital computer or computer-controlled robot to perform tasks generally connected with intelligent beings.

Keywords- games, artificial intelligence, A* algorithm, FPS and RTS types.

CS-151

SOCIAL MOBILE ANALYTICS CLOUD- AN INTRODUCTION

Dr. Sumera W.Ahmad, Dr.G.R.Bamnote, Dr.Mohammad Mujahid Iqbal

Abstract- SMAC (Social, Mobile, Analytics and Cloud) is an incorporation of four technologies that have become the drivers of innovation in businesses at present. Facebook, Blogs, Twitter, E-Mail, Wikis, Instant Messengers and other social network services and software applications which promote and assist interpersonal communications, both business and personal. Tablets, smartphones, personal digital assistant (PDAs), and global positioning system (GPS) to the network, are applications and software which prop up anywhere connectivity. These present new stages of empiricism and close by founding a software supply chain of gathering, classifying, overseeing, determining, examination and reporting large volume of dissimilar date on fragmentary basis.This set asides remotely based computing resources which include application, database and server to distributed via internal instead of internal and permitting for flexibility of resources with minimum cost. This paper presents an overview of four technologies which combines and introduce to SMAC.

Keyword- Social media, cloud, Analytics

CS-152

STUDY OF VARIOUS IMPLEMENTED APPROACHES FOR RUMOUR DETECTION OVER SOCIAL MEDIA PLATFORM

Mrs. Shital. M. Mohod, Dr. Swati S. Sherekar, Dr.V.M.Thakare

*Abstract-*The rapid growth of World Wide Web has resulted in substantial increase in use of social media.Social interactions can be inferred on the web using the mailing list and home page links. It also represents the social lives of the individuals, collaborations, communities and relationship. Social networking groups are becoming increasingly important due to the volume and activities. The social media data consists of comments, Feedback and reviews.Rumour detection is used for text classification which classifies text into Positive, Negative and Neutral. The increasing use of social media platforms for information and news gathering, its unmediated nature often leads to the emergence and spread of rumours. The aim of the survey is to provide a study on various implemented approaches for rumour detection over social media.

Keywords- Social Media, Rumour Detection, SVM,KNN,NB,ME.

CS-153

THE RISKS AND LIMITATIONS OF SECURITY MECHANISMS ON IOT ENVIRONMENTS

Ms. Shilpa B. Sarvaiya, Dr. Swati S. Sherekar, Dr. V. M. Thakare

*Abstract-*Internet of Things is the technique which is provided by the unique identifiers that can automatically transfer the data over the wide network without the help of human being. The devices uses are vulnerable to hack. The purpose of hacking the devices of Internet of Things may not be accessing data only, but it could be harming the users of those devices. In other words, it might affect them economically, endanger their health or put their lives at risk since this technology is directly connected to their daily lives, and this is considered a violation of users'privacy.The devices of Internet of Things are hacked and exploited in order to attack the Internet infrastructure supplied by some major companies. In this paper we have token an overview about the security of Internet of Things, we are trying to cover the possible security measures to put a stop to attacks from the previous research scholars on the topic of security of Internet of Things. We propose a one of a kind concept of three Layered Security to prevent the malicious activities of Cyber-criminals. In these three layers we have ponder the Device Security, Communication Security and Server Security. Risks and Limitations are also discussed here.

*Keywords-*IoT Security; Three layered Security; Network Security; Risks; Limitations

CS-154

A MACHINE LEARNING MODEL FOR THE GROWTH OF AGRICULTURE INDUSTRY

Ms. Poonam B. Lohiya, Dr. G. R. Bamnote

Abstract- Horticulture assumes a basic job in the worldwide economy. Weight on the agrarian framework will increment with the proceeding with the extension of the human populace. Agri-innovation and accuracy cultivating, presently additionally named advanced horticulture, have emerged as new logical fields that utilization information extraordinary ways to deal with drive agrarian profitability while limiting its ecological effect. The information produced in present-day horticultural tasks is given by a wide range of sensors that empower a superior comprehension of the operational condition (an association of dynamic harvest, soil, and climate conditions) and the activity itself (apparatus information), prompting increasingly precise and quicker basic leadership. This paper comprises about the use of Machine Learning (ML) and Internet of Things (IoT) for the enhancement in agriculture industry.

Keywords-Internet of Things, Machine Learning, Artificial Intelligence

CS-155

ANALYSIS ON CREDIT CARD FRAUD DETECTION TECHNIQUES BY MACHINE LEARNING APPROACH

Miss. Prajakta Sukhdeve, Prof. M. M. Bartere

Abstract- Use of online transactions in day to day life has been increasing since the last decade due to advances in technology and network connectivity. Due to the ease, simplicity and user friendliness of online transactions, new users are constantly joining the vast population which benefitted from such system. Credit card is one of the most divisive products among all available financial tools. Besides being convenient, there are credit card frauds which are becoming main threat for the users. This paper is focused on analysis of five papers. In this paper, we have studied different fraud detection techniques and presented the techniques thoroughly.

Keywords-Fraud Detection, Credit Card, Machine Learning, Data Set, Artificial Neural Network.

CS-156

COMPARATIVE ANALYSIS OF CRIME RATE PREDICTION USING LINEAR REGRESSION, LOGISTIC REGRESSION AND GRADIENT BOOSTING TECHNIQUES

Miss. Ashwini A. Deshmukh, Prof. M. M. Bartere

Abstract-Urbanization creates a lot of social problems. One of these problems inherent in all cities of the world is crime. Police databases accumulate a large amount of data that could be analyzed in order to reduce crime rates. The analysis of criminal activity and prediction of number of crimes remains one of the most interesting problem for researchers. Crime is one of the most dominant and alarming aspects in the society and its prevention is an important task. Crime analysis is a systematic way of detecting and investigating the patterns and trends that happen in a crime. This paper is focused on analysis of five papers. In this paper, we have studied different crime prediction techniques and presented the techniques thoroughly.

Keywords-Crime Prediction, Linear Regression, Clustering, Machine Learning, etc.

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EE-101
AURDINO BASED SMART HOME ENERGY MANAGEMENT STRATEGY BY AUTOMATIC SWITCHING OF CHARGING UNIT

Prof. Trupti Deoram Tembhekar [Prof. Trupti Jayant Sakhare]

Abstract- Energy is the primary and most universal measure of all kinds of work by human beings and nature. Everything what happens in the world is the expression of flow of energy in one of its forms. Most people use the word energy for input to their bodies or to the machines and thus think about crude fuels and electric power. The conventional sources of energy are depleting and may be exhausted by the end of the energy or beginning of the next century. Solar energy and Wind energy, and other non-conventional energy sources are the sources, those are to be utilized in future. The proposed work focus on Arduino controlled Electrical vehicle charging Management System (EVCMS) using Renewable Resources.

Keywords- EMS, EVCMS, ATMEGA Controller, Arduino Voltage sensor.

EE-102
PLANT LEAF DISEASES DETECTION USING PYTHON V3.5.2

Mr. Ashish Nage, Prof. V.R. Raut

Abstract- The major cause for the decrease in the quality and amount of agricultural productivity is plant diseases. Farmers encounter great difficulties in detecting and controlling plant diseases. Thus, it is of great importance to diagnose the plant diseases at early stages so that appropriate and timely action can be taken by the farmers to avoid further losses. The project focuses on the approach based on image processing for detection of diseases of plants. In this paper, we propose an Android application that helps farmers for identifying plant disease by uploading a leaf image to the system. The system has a set of algorithms which can identify the type of disease. Input image given by the user undergoes several processing steps to detect the disease and results are returned back to the user via android application.

Keywords- Image processing, Detection, Identification of plant leaf diseases, Convolutional neural network

EE-103
DIGITAL IMAGE SHARING BY USING QR CODE TECHNOLOGY

Prof. Ekeshwari A. Rangari, Prof. Vishwajit K. Barbudhe, Dr. Anirudha D. Shelotkar, Prof. Vinay U. Kale

Abstract- In the previous methods of sharing the digital image i.e. Visual Secret Sharing (VSS) scheme and Extended Visual Cryptography Scheme (EVSS) arises a transmission risk problem while sharing the secret data. To reduce this unavoidable problem, the solution is given in this paper. This paper introduces a natural-image-based Visual Secret Sharing scheme (NVSS scheme) which is the proposed technique used to reduce the transmission risk problem and also to protect the participant while sharing the data. Here, the data is in the form of digital image. In such a NVSS scheme, one digital image, one printed image i.e. n-natural images and one secret image in the form of digital are needed. All the images are converted into one noise-like share for sharing the secret image. By performing the process of extraction, the secret image will be encrypted by using (n-1) natural shares. This generated data will be hiding by using the QR code technology. At the receiver end, the secret image will be received through the decryption process by performing the XOR operation. The transmission risk is reduced here by transmitting the natural images using a variable secure media.

Keywords- Visual Secret Sharing Scheme, Extended Visual Secret Sharing Scheme, digital images, natural shares, noise-like share, etc.

EE-104
APPLICATION OF IOT: SMART MANHOLES BASED UNDERGROUND DRAINAGE SYSTEM

Praveen Ramteke, Vinay Kale, Chandrashekhar Deshmukh

Abstract- Underground drainage system (UDS) and the manholes in cities of our country India is one of the major issues, due to its poor maintenance. The drainage water contains sewage, domestic and industrial waste. When such thing gets blocked within sewers, UDS is overflowed on the roads causing water logging and sometimes gets mixed up in the drinking water which causes health hazards to common people. The sewers gases make manholes a lethal environment, when UDS requires maintenance. To overcome these issues, a

model called "Smart Manhole Based UDS" is proposed here, which will monitor various parameters related UDS & manholes such as drainage fluid level and sewer gas level in the drainage system, manholes lid or cover conditions; location of the underground blockage by using Node MCU and the measured values will be stored in the cloud for future analysis. The real time monitored data will be analysed and conditions of UDS and manholes will be sent to nearby municipal corporation office as emergency notifications through IoT systems.

Keywords-IoT- Internet of things, UDS- underground drainage system, sewer gases, WSN- wireless sensor network, Node MCU- Node microcontroller unit, CPU- central processing unit, GUI- graphic user interface, RFID- radio frequency identification.

EE-106
RECENT TRENDS IN ANTENNA DEVELOPMENT FOR 5G WIRELESS NETWORK

Mayuri Soni, Dr. C. N. Deshmukh

Abstract—Fifth generation (5G) is the next major phase of mobile telecommunications standards beyond the current 4G, which will operate at millimeter-wave frequency band. The design of an efficient antenna plays a very important role in the performance of radio communications in any wireless device . 5G is considered beyond 2020 mobile communications Technologies. Improving the capacity of the networks with better coverage at a lower cost is the main objectives of 5G. The general agreement among different research groups working on the futuristic 5G technologies is a peak data rate of 10 Gb/s for static users, 1 Gb/s for mobility users and no less than 100 Mb/s in urban areas led to the study of using advanced multiple-input multiple-output (MIMO) architecture as well as adaptive beam-forming. These antenna technologies may be among the key factors for overcoming some of the challenging propagation characteristics of mm-waves and could increase the spectrum efficiency, provide higher data rates, and adequate reasonable coverage for mobilebroadband services. With the potential for higher frequencies as well as mm waves deployment, most 5G frequency bands are predicted to be in the range of 20-50GHz. Extension of multi-user MIMO concept to hundreds of antennas at the base station is a promising solution to significantly increase user throughput and network capacity by allowing beamformed data transmission and interference management. Moving to the mm-Wave frequencies for 5G mobile stations, requires new techniques in the design of antennas for mobile-station (MS) and base-station (BS) systems.

Keywords- MIMO, mm-Wave, 5G Communication Systems

EE-108
MEDICAL HISTORY TRACKING AND TOKEN GENERATION USING IBUTTON AND ZIGBEE PROTOCOL

Rohit Somkuwar, Girish Patil, MayurTiwari, Jaya Chandwani

Abstract-The medical world is compacting everyday as the technology and research improving for the welfare of human beings. The medical records of any patient suffering from severe diseases need to be carefully handled and to be stored for future reference. The medical record database system needs more attention to improve its portability and security for such applications. The medical history tracking was useful for electronic medical record system as it includes both features viz. Secure and portable. iButton is the hardware key provided to patient for accessing their medical record by themselves, doctors and insurance companies. The system was implemented on embedded platform and ARM7 as its processor unit. The system is useful in big organizations where the data storage is a critical job and the portability of record is time consuming. Another system of token generator was developed to solve the problem of queue waiting in hospitals and huge organizations for treatment. The token is generated which have printed information like name of consulting doctor, running token number, total token number, time required for check-up etc. This token system will help to update and print the running token number of patient. It saves the time of patient as required time for check-up is printed on the token, so queuing problem automatically solved. The status update of patient is communicated using ZigBee wireless network. The doctors from different department update their statuses using respective iButtons over the ZigBee network. Both systems are very useful in huge organizations and hospitals. The system can be made available for animal husbandry and defence personnel for whom handling of medical record is one of the critical jobs. The system can be upgradable to other applications with minor changes in the circuits of medical history tracking and token generation systems.

Keywods-Electronic Medical Record (EMR); iButton; ZigBee; Touch-Screen; token generation;

EE-109

A SYSTEMATIC REVIEW OF AUTOMATED FABRIC DEFECT DETECTION APPROACHES

G. G. Patil, Dr. S. M. Deshmukh

Abstract-In textile industry, for retaining the existence in the highly competitive global market, quality control at each stage of production has become very vital. The major shortcomings of conventional fabric defect inspection systems are lack of accuracy, high time consumption and higher labor costs. Computer vision based i.e. automated fabric defect inspection systems are thought to make researchers of different countries to be very useful to resolve these problems. The development of fully automated fabric defect inspection system requirement and efficient fabric defect detection algorithms. The inspection of real fabric defects is particularly challenging due to the large number of fabric defect classes which are characterized by their vagueness and ambiguity. Numerous techniques have been developed to detect fabric defects and the purpose of this paper into categorize and to describe these algorithms. Categorization of fabric defect detection techniques is useful in evaluating the qualities of identified features. On the basis of nature of each features from the fabric surfaces, the proposed approaches have been characterized into three categories, statistical, spectral and model based.

After studying various research methods, this paper suggests that instead of either one individually, the combination of statistical, spectral and model based approaches can give better results and is suggested for further research.

Keywords-Quality Assurance, Industrial Inspection, Fabric Defect Detection, Automated Visual Inspection, Textile Inspection

EE-111

SMART HOME USING ARTIFICIAL INTELLIGENCE

Nitin S. Thakare, Amit R. Pathare, Shashank P. Zade, Ashay I. Rokade

Abstract- In this fast age everything becoming an smart to ease the life of human being, similarly homes can also be made smart by using artificial intelligence and internet of things. By using internet of things the device operation and their control technology in smart homes has been attracting attention. The smart home system manages smart devices used in homes, and it provides only the status value information and control function of the currently registered devices. Thus, unnecessary access procedures occur due to the characteristic of the smart home, which uses a smart device repeatedly for the same purpose. To resolve such problem, in this paper, the Smart Home System has been designed, which can predict and suggest users the next steps to take by user usage pattern analysis and inference via machine learning.

Keywords-IoT, Smart home system, TensorFlow, Machine learning

EE-112

COMPARATIVE ANALYSIS OF DIFFERENT TECHNIQUES USED IN MAMMOGRAM TO ELIMINATE PECTORAL MUSCLES

R. S. Thakare, Dr. S. M. Deshmukh, Prof. V. R. Raut

Abstract-Breast cancer is a leading cause of death among all cancer diseases for middle-aged and older women. It is major health challenge all over the world and its occurrence has increased rapidly in recent years. Mammography is a valuable and cost effective tool used in breast cancer screening programs and is a well-known method for detection of breast tumors. Early detection and removal of the primary tumor is an essential and effective method to enhance survival rate and reduce mortality. The image segmentation is the basic step in the detection of tumors in various medical images. Breast region segmentation is an essential prerequisite in computerized analysis of mammograms. It aims at separating the breast tissue from the background of the mammogram. The detection and segmentation of the pectoral muscle in the Medio-Lateral Oblique (MLO) view of mammograms is essential for further analysis of breast anomalies. The presence of pectoral muscle may sometimes affect the detection of architectural distortion due to their similar characteristics with abnormal tissues. As a result pectoral muscle should be handled separately while detecting the breast cancer. There have been various techniques to remove the pectoral muscle and isolate the breast region. This paper gives a comparative analysis of the various existing techniques used for Elimination of Pectoral Muscle.

Keywords-Breast cancer, Pectoral Muscles removal, Mammograms, Medio-Lateral Oblique (MLO) view

EE-113

REPLICA TO SPEECH RECLAMATION FOR VISUALLY IMPAIRED

Shivangi A. Badwaik, Gunjan R. Salpande, Shraddha N. Nagrale, Prof. A. L. Raksede

Abstract- The present paper has introduced an innovative, efficient and real time cost beneficial technique that enables user to hear the contents of text images instead of reading through them. Visual impairment is one of the biggest limitation for humanity, especially in this day and age when information is communicated a lot by text messages (electronic and paper based) rather than voice. The device we have proposed aims to help people with visual impairment. In this project, we developed a device that converts an image's text to speech. The basic framework is an embedded system that captures an image, extracts only the region of interest (i.e. region of the image that contains text) and converts that text to speech. It is implemented using a Raspberry Pi and a Raspberry Pi camera. The captured image undergoes a series of image pre-processing steps to locate only that part of the image that contains the text and removes the background. Two tools are used convert the new image (which contains only the text) to speech. They are OCR (Optical Character Recognition) software and TTS (Text-to-Speech) engines. The audio output is heard through the raspberry pi's audio jack using speakers or earphones.

Keywords-OCR, image pre-processing, embedded system, raspberry Pi, TTS, text extraction, voice processing.

EE-114

TYRE PRESSURE MONITORING SYSTEM USING ARDUINO

Prof. Preeti. Lawhale, Bharti Gawande, Samiksha Gulhane, Aman Tanpure, Sanket Solanke

Abstract-Accurate tyre pressure is a feature that gives us the advantage of higher fuel savings, and better control of the vehicle. To maintain accurate pressures, frequent measurements of pressure using pressure gauges are required which becomes a tedious process. Especially during long journeys the Tyre pressure may continuously change due to load, temperature and irregularities of the road, thus for this convenience TPMS is innovated. TPMS is an electronic system that observes and monitors the air pressure. Certain TPMS also monitors the temperature of the automobile Tyre. The system alerts the driver of the vehicle of the air pressure inside the Tyres by displaying the real pressure or just a warning light. The proposed system is going to design by Arduino to refill the tyre pressure even when the vehicle is in motion. Temperature compensated pressure sensor keeps a constant vigil on the value of the tyre pressure. The system will take continuous readings of the tyre pressure and temperature and decide if the pressure is within proper inflation. This prototype is a promising product in real world application.

Keywords- TPMS, Tyre pressure monitoring system, wireless communication, Arduino

EE-115

A REVIEW OF MACHINE LEARNING FOR HYPERSPECTRAL IMAGE APPLICATIONS

Prof. Vaibhav J. Babrekar, Dr. S. M. Deshmukh

Abstract- The way that information is shared has always been revolved around knowledge sharing. Information is a value for the machine, but is described as an action requiring a reaction for the humans. Any gesture that can be visualized or sound that can be heard is used to convey information or instructions to a machine. The same action that can be stipulated by a machine evolves via machine learning by learning the predefined database or samples. Intelligence that evolves via machine learning is a derived product of artificial intelligence (AI) that is bundled in a system via a software interface. This research area mainly deals with algorithms that need to access huge amounts of data and provide faster derivations and beyond. An algorithm implemented via a computer vision or a means of computation for processing such huge amount of data requires creation of a classifier. Definition of such a classifier requires training a machine learning model whether it is supervised or unsupervised with ensuing tasks for various directions or domains. These tasks revolve around continuous learning or training leads to classifiers objects being updated and validated continuously. The speed with which such classifier objects help machine learning to grow and provide application based solution is the aspect of research.

Keywords- Hyper-spectral Image Processing, Remote Sensing, Machine Learning, Algorithm classifiers

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EE-116

QUALITY ANALYSIS AND GRADING OF SOYBEAN USING MACHINE LEARNING

Mr. Vaibhav S. Yende, Prof. S.V. Pattalwar, Dr. S.M. Deshmukh

Abstract- The use of good quality seed is very important for the better production of a good quality crop and i essential for export in markets. Quality control process is very important in food industry, based on quality o food products are classified and graded into different grades. Soybean is primarily graded based on its grai shape, colour, size and texture. This paper attempts to automate the grading process by using image processin and machine learning techniques. Soybean's grade is affected by damaging, decolourization, infection b insects, immaturity and shrivels, splitting, breaking, cracks, inorganic and organic foreign matter present in th sample. One of the objectives of this paper is to study the effect of these parameters on shape, colour, size an texture of the soybean image. In the present soybean-handling scenario, type and quality are identified manuall by visual inspection which is tedious and not accurate. There is need for the growth of accurate, fast an objective system for quality determination of food grains. This paper is automate the system for grading o soybean by extracting morphological features as attributes for classification using image processing technique and artificial neural network. The classification is done on the basis of features extracted from the segmente images. Simple averaging is used for the combination of results from each classifier. The data is divided into th training and testing data. The data classified as training data is then used for training the neural networl Remaining data is used for the testing purpose. The training and testing dataset involves both normal as well a abnormal cases. Then classification is done into normal and abnormal. It provides better results compared t single neural network that has accuracy of about 90%. This method requires minimum time and it is low in cost

Keywords- ANN, Grading, Image Processing, Machine Learning, Soybean, Morphological, Seed features

EE-117

EVOLUTION OF CALL ADMISSION CONTROL SCHEMES IN WIRELESS NETWORK – A SURVEY

Dr. C. N. Deshmukh, A. S. Mahore

Abstract -The Next generation wireless networks (NGWN) will be heterogeneous which will able to hav different radio access technologies (RATs) operating together. The Radio Resource Management (RRM) is on of the key challenges in NGWN. The Call admission control (CAC) mechanism is one of the Radio Resourc Management technique plays most important role for ensuring the desired QoS to the users working on differer applications which are having the diversified nature of QoS requirements to be fulfilled by the wireles networks. One of the key challenges to be addressed in this prevailing scenario is the distribution of th available channel capacity among the multiple traffic with different bandwidth requirements so as to guarante the QoS requirements of the traffic. The call blocking probability is one of the QoS parameter for the wireles network and for better QoS it is desirable to reduce the call blocking probability. Provision of quality-of-servic (QoS) guarantees is an important and challenging issue in the design of integrated services packet network: Call admission control (CAC) is an integral part of the problem. Without call admission control, providin quality-of-service (QoS) guarantees will be impossible. The issue of call admission control is closely related t other aspects of a network, such as service models, scheduling disciplines, traffic characterization and Qo: specification. Call admission control (CAC) with statistical quality-of-service (QoS) guarantees is a particularl important and challenging problem. One of the most important challenges is that of providing call admissio control (CAC) for a heterogeneous mixture of applications which have differing quality-of-service (QoS requirements. The advances in multimedia applications over a wide area network have directed considerabl research into the quality of service. A comprehensive exposition of the specifications and management o quality of service (QoS) in wireless networks and in distributed computing systems, supporting multimedi: applications, are important for both service providers and end users. This article is a survey to explore issue: concerning the quality of service in the current and next generation wireless networks.

Keywords –Call admission control (CAC), Radio resource management (RRM), and Quality of service (QoS)

EE-119

TESTING OF 3 PHASE INDUCTION MOTOR USING MATLAB/SIMULINK FOR UNDERGRADUATE ELECTRIC MACHINERY COURSES

A D Ingole, B H Band

Abstract- Induction motors are the most widely used electrical motors in the industry due to their reliability, low cost and robustness. For industrial applications, 3- phase induction motors are the prime movers for the vast majority of machines.

This paper describes the different tests like no load test, blocked rotor test and also of three phase induction motor. All tests are performed on MATLAB/Simulink software. The equivalent circuit model and results analysis is also presented. The proposed tests have been successfully included into undergraduate machinery courses.

Keywords- 3 phase Induction Motor, MATLAB/ Simulink software, No load test, Blocked rotor test

EE-120

3D MODEL RECONSTRUCTION FROM MULTIPLE VIEWS USING OPEN SOURCE TOOLS

Dr. Mir Sadique Ali, Mohammad Azhar Ali, Shubham R. Channe

Abstract- The development of 3D model reconstruction has grown rapidly for applications such as computer vision, object recognition, pose estimation, reverse engineering, 3D printing, augmented reality and virtual reality etc. This work presents a novel technique for 3D model reconstruction from multiple views by combining the ideas from structuring and modeling. Our approach to 3D model reconstruction consists of three major phases viz object image acquisition, 3D object point cloud generation and mesh model creation from point cloud. It is demonstrated that by integrating the functionalities from open source tools like VisualSFM and MeshLab, it is possible to reconstruct 3D model of an object very effectively and efficiently.

Keywords- 3D Reconstruction, Point cloud, Mesh model, Multiple Views, Open Source Tools.

EE-121

HYBRID PROPULSION WITH EFFICIENT FUELING SYSTEM FOR SPACECRAFT

Hemant Jambhulkar, Harshal Khadse, Abhishek Agrawal

*Abstract-*Current space launch vehicles use chemical reactions (solid and liquid propellants) to achieve sufficient thrust to launch spacecraft. They carry a lot of fuel to escape the Earth's gravity. For long-distance space-travel, more fuel is required. But more fuel increases the weight of the spacecraft and to minimize fuel consumption, the need for fuel-efficient spacecraft is necessary. It can make the deep-space manned mission possible. The ratio of payload and the overall weight of spacecraft are uneven; that means, to carry one ton of mass in space we require more than 100 tons of launch mass. For space colonization, space rockets should be able to carry a higher percentage of human beings with it. Currently, due to the overall weight and design of the spacecraft, it is not possible to carry number of people. Through the above mentioned four techniques, we can save the fuel of spacecraft at a large extent and can reduce its fuel consumption.

*Keywords-*thrust, Spacecraft, fuel, deep-space

EE-123

MOVING OBJECT DETECTION AND TRACKING IN OBJECT BASED VIDEO SCENES

Kishor Dhake, Dr. Surendra S. Dalu, Mandar Dhake

*Abstract-*In recent years, the automatic object detection and tracking in a video scene is an interesting and most challenging area of computer vision with key applications in video surveillance for public safety against crime, defense technology, vehicle navigation etc. Video surveillance is a technology which works in dynamic environment in various events such as sports, public safety and management of traffic. Given an input video sequence, the system will automatically extract moving objects and will compute their bounding box, their centre of mass, their direction and their size.

*Keywords-*Object detection, object tracking, computer vision, video surveillance, bounding box

EE-124

A LOW POWER PIPELINE ADC WITH BACKGROUND CALIBRATION & DIGITAL CORRECTION

S. I. Bakhtar, Dr. S. S. Dalu

Abstract-This paper relates to low power pipeline analog to digital convertor with background calibration and digital correction. The pipeline ADC accomplishes this by a major reduction in the amount of circuitry required in the conversion process. Digital error correction logic and Flash ADC are integrated to form 10-bit pipelined ADC. Op-amp sharing technique have been used to minimize the power consumption in the pipelined ADCs. The power can also be saved by using charge distribution type dynamic comparator which is suitable for pipelined ADC. In the proposed ADC background calibration circuit comprises of a flash type ADC to summon up the data that is the difference in the MDAC requiring the digital error correction to provide a controlled yet comparable output which consumes 182.28 µW per flash ADC.

Keywords-Pipeline ADC, low power, pipeline, op-amp

EE-125

ARTIFICIAL INTELLIGENCE IN INTEGRATED MICRO GRID WITH WIND POWER GENERATION SYSTEM

Mohd Wajahatullah Naseem, Dr. Mir Sadique Ali, Krunal Panpaliya

Abstract-The micro grid is basically an upgraded conventional grid that has two-way communication. By using micro grids and the technologies related to it, transmission and distribution losses can be minimized, efficiency can be improved and the overall power system becomes capable of responding power in more optimal ways in comparatively wide range. Besides these advantages, it is also helpful in minimizing demand-supply gap, theft reduction, and load shedding. Artificial intelligence (AI) techniques, have brought an advancing frontier in power electronics and power engineering. These techniques provide powerful tools for design, simulation, control, estimation, fault diagnostics, and fault-tolerant control in modern micro grid (MG) and renewable energy systems (RESs). To change and control the energy flow variations, we need to shift today's grid to integrate and AI automated substations. This paper is basically an outline of the micro grid power system connected with several small wind turbines to recapture wind energy from vehicles on the highway and the same generated energy can be used as an unlimited power source for various public amenities especially for providing energy in rural areas where load shedding is a major issue these days.

Keywords-Micro grid, PV system, Wind Energy, Solar Energy, Energy Storage System

EE-126

WAVELET TRANSFORM BASED ARC FAULT ANALYSIS IN DC DISTRIBUTION SYSTEMS

Prof. Krunal Panpaliya, Dr. Mir Sadique Ali, Prof. Mohd Wajahtullah Naseem

Abstract- Arc faults have forever been a priority for electrical systems, as they will cause fires, personnel shock hazard, and system failure. Existing commercialized techniques that rely on pattern recognition within the time domain or frequency domain analysis employing a Fourier transform don't work well, because the signal/noise ratio is low and therefore the arc signal is not periodic. Instead, wavelet transform (WT) provides a time and frequency approach to investigate target signals with multiple resolutions. in this paper, a brand new approach using WT for arc fault analysis in dc systems is planned. the method of detecting an arc fault involves signal analysis and so feature identification. the main focus of this paper is on the former. Simulation models are synthesized to review the theoretical results of the projected methodology

Keywords- Arc fault analysis, dc distribution, signal processing, wavelet transform (WT)

EE-128

COMPUTATIONAL MODELLING OF THE LAYERED PIEZOELECTRICCOMPOSITES ANDANALYSIS OF THEIR ELECTRO-MECHANICAL RESPONSE UPON HARMONIC VIBRATIONS

Prof. Pragati.G. Rathi, Prof. Dhiraj. W. Ghatole

Abstract- Currently, a generation of electric power from alternative sources of energy, especially from ambient vibrations, is becoming a very hot topic. Devices converting mechanical energy into an electrical one are called energy harvesters and are often based on the piezoelectric phenomenon. For the optimal adjustment of such an energy converter in the given application, it is necessary to have its computational model, which is able to describe all key aspects of its operation. Thus, this work focuses on the development of such a complex computational tool, which is able to globally describe the electromechanical response of the studied piezoelectric harvester operating in the form of a cantilever multilayer ceramic beam with piezoelectric layers. Such a multilayer structure is subjected to a kinematic excitation during its operation and also contains thermal residual stresses coming from the manufacturing process. The derived computational model utilizes the classical laminate theory to determine the static electromechanical response of the structure. Hamilton's variational principle and the theory of beam vibrations were employed to obtain electromechanical response of the structure upon steady-state vibrations. The complex computational model is also capable of estimating the apparent fracture toughness of a given multilayer structure using the weight function method. The output of derived computational model is validated with FE simulations and available experimental results. This master's thesis also presents an application of the derived computational model in the optimization of a particular multilayer beam to obtain maximal electrical power output and to maximize its resistance to surface crack propagation and a potential brittle fracture. This goal is achieved by means of a suitable adjustment of thermal residual stresses in particular layers of the considered structure (controlled by used materials and by thicknesses of particular layers). Keywords ceramic laminate, piezoelectricity, analytical model, FEM, Ansys, classical laminate theory, vibrations of beams, Hamilton's variational principle, weight functions.

*Keywords-*ceramic laminate, piezoelectricity, analytical model, FEM, Ansys, classical laminate theory, vibrations of beams, Hamilton's variational principle, weight functions

EE-129

RECENT AND FUTURE TRENDS IN MEDICAL IMAGING TECHNOLOGY, A SURVEY

Mr. Mahendra P. Bodkhe, Dr. C. N. Deshmukh

Abstract- "Different types of medical imaging technologies are used to view the human body in order to diagnose, monitor, or treat medical conditions". Each type of technology gives dissimilar information about the area of the body being studied or treated, related to possible disease, injury, or the effectiveness of medical treatment". This report embodies different basic imaging techniques along with recent trends in these techniques. This study also enables us to understand the historical background of these techniques and the future trends in imaging techniques being used for the benefit of humankind. Currently used techniques such as X-rays, CT scan, and MRI etc. are being used to investigate various ailments such as Bone fractures, Infections, Calcifications, some tumors, Arthritis in joints, Bone loss, Dental issues, and Heart problems. Recently, the focus of medical imaging research shifted toward detail optimization and the development of new disease-specific protocols, although several striking new developments need to be highlighted. The development of new ultra-portable ultrasound devices, which make ultrasound even more attractive as a fast and low-cost imaging modality, laser-based optical imaging that uses visible or near-infrared light deserves special attention as some methods have been adopted in clinical practice. Recently, used techniques such as Optical Tomography, PET and Multi-Modality Imaging, Molecular Imaging etc. OCT is an imaging method used to generate a picture of the back of the eye, called the retina. Molecular imaging includes noninvasive detection of disease with the use of disease-associated molecular signatures. Finally, the report focuses on the future trends in imaging technologies.

Keywords- CT Image, OCT Imaging, PET

EE-130
HARDWARE IMPLEMENTATION OF IMAGE ENHANCEMENT TECHNIQUES IN SPATIAL DOMAIN

Avinash G. Mahalle, Nikhil S. Band, Chetan W. Rawarkar

Abstract- Image Enhancement is the process of improving the quality and the information content of origi image so that resultant image becomes more suitable for display or further analysis. The main objective image enhancement is to make image appropriate for the certain applications. Image enhancement techniq have been widely used in many applications of image processing where the subjective quality of images important for human interpretation. Spatial domain refers to the image plane itself and is based on dir manipulation of pixels in an image. In this paper, various point processing and spatial filtering techniques discussed in spatial domain. These techniques are implemented using reconfigurable hardware platform of f programmable gate array (FPGA). System Generator is used in order to integrate Xilinx FPGA design proc with MATLAB/Simulink. It provides a high-level description to easily realize the complex computations digital image.

Keywords- Image Enhancement, Point Processing Techniques, Spatial Filtering, Xilinx System Genera Spartan-3E FPGA

EE-131
OPTICAL RECOGNITION OF DIGITAL CHARACTERS USING MACHINE LEARNIN

Aparna Patil, S.W. Mohod, M. D. Ingole

Abstract- Optical Character Recognition (OCR) plays an important role in document image processi Recognition of characters in a smart way is gaining importance in the modern days, as huge piles of dat generated, and it needs to be processed and manipulated. In world more than 300 millions peoples Devanagari script such as Marathi ,Hindi, Sanskrit has uses Devanagari as base script As compared to Eng language Devanagari character recognition is complicated. This paper aims at presenting an OCR utility wl recognizes text characters, using a machine learning model.

Keywords- Artificial intelligence, classification algorithm, machine learning, Optical character recognit machine learning

EE-132

INTEGRATED SMARTPHONE BASED DASHBOARD FOR VEHICLE

Akshay S. Utane, Shashank P. Zade

*Abstract-*the design of "An Integrated smartphone based Dashboard for vehicle "is intended to develop integrated dashboard in automobile for smart city application. The project involves the implementation proposed system used for successful real time data acquisition, fault diagnosis and display with child safety vehicle monitoring features for any vehicle. Proper vehicle monitoring and maintenance can save time, mo and improve the ownership experience. Our system is based on Microcontroller and Wireless Communica which is used to extract the vehicle's status or fault information, and then the results can be viewed to the dr to monitor various parameters like fuel consumption, engine temperature etc. for safe and careful driving. project aims at developing an embedded system prototype for detecting the vehicle condition by monitoring internal parameters collected from various sensors that are used in evaluating the vehicle's current state. Tl collected parameters will be displayed on owner's smartphone. This project helps to minimize the sp electronics used, and material used for dash board in any vehicle as smart phone will replace entire dashbo This also include voice commanding of many features from basic like start/stop the engine to advance feat like calling, enabling entertainment, weather, map and many more using specially designed Android/IOS mo application.

*Keywords-*dashboard, real time monitoring, sensors, Bluetooth, voice control.

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MCH-101

THEORATICAL AND EXPERIMENTAL ANALYSIS OF SOLAR AIR HEATER WITH W-SHAPED ROUGHNESS ON ABSORBER PLATE.

Prasanna S. Gaikwad

Abstract- Analysis is made for Reynolds number of 18000 – 21000. The thermal performance is investigated for W – shaped roughness of thickness (t) 5mm, length of 10.5 cm, with an angle of 25°. The simulation is carried out using solar irradiance as heat input at the location of Amravati 20.93°N 77.75°E. Comparison of Reynolds no and Nusselt no is made. The thermal efficiency is found to increase as the temperature goes on increasing simultaneously the pressure at outlet is greater than inlet pressure. The mechanical power which is required is increased due to the roughness present on absorber plate. The heat transfer between smooth and roughened surface is compared. The experimental results are compared with analytical results on ANSYS 18.1. The thermal efficiency for the smooth surface is around 40 – 45% at particular temperature after roughening the absorber plate the efficiency increased upto 50 – 60% for the same temperature.

*Keywords-*Artificial roughness, Computational fluid dynamics, Laminar and turbulent flow, Solar air heater.

MCH-102

DESIGN OF EXPERIMENTAL SETUP FOR MACHINERY COMPONENT FAILURE DIAGNOSTICS AND DYNAMIC LIFE PREDICTION BY SIGNAL ACQUISITION

DSR KIRAN, Dr. K. H. Munde, Dr. S. B. Thakre

Abstract- Machinery diagnostics is used for predicting existing defects and used to prevent catastrophic failures in mechanical systems. During operation, the mechanical parts are subjected to heavy and dynamic loads generated by machines and transmitted through the components of rolling element bearings. There are different methods for the diagnosis of these defects in the bearings viz. acoustic measurement, temperature monitoring, wear debris analysis and vibration measurement. A combination of these techniques can predict an upcoming failure with a certain level of confidence and accuracy. The main aim of our project is to design a machine that enables finding out potential defects in a machinery and be able to predict the remaining life of components.

Diagnosing wearing parts of machines and engines, improve the availability, safety and help to reduce material usage and refurbishing efforts. Primary operational parameters like pressure, flow, and material temperature can be measured and a relationship can be established for each type of component. These relationships can then be monitored for a consistency and predict the changes in machinery behaviour.

Keywords- Reliability, Predictive Maintenance, Wear and Tear, Variable loads, Vibration analysis, FFT analysis, Machinery component failures, Component life diagnostics, Condition monitoring

MCH-104

AN ERGONOMIC STUDY TO INVESTIGATE THE EFFECT OF COMFORT AND DISCOMFORT FACTORS OF BICYCLE HANDLE BAR

Pradeep Ingole, Nilesh Pohokar, Ajay U. Awate

Abstract- This article present an ergonomic study related to design of bicycle handle, increasing the cyclist's comfort has become an additional aspect in the design process of conventional bicycles. Several attempts have been made to increase the cyclist's comfort while riding a conventional bicycle, but for the designer it is difficult to estimate the effect on the riding quality of the bicycle and whether the comfort perception of the cyclist increases. This work proposes an ergonomic study to investigate the effect of comfort and discomfort factor for during outdoor field testing for bicycle handlebar design. This data is analyzed by means of the ergonomic study for handle bar design on the basis of comfort factors. The initial test results show that the rider having comfort position depending on the handle position seems to correlate best with the cyclist's comfort. This method will help for finding optimal position of handle bar, but the combination of ergonomic data and rider opinion will give best outcome for obtaining optimal results.

*Keywords-*Bicycle, comfort positions, ergonomic study

MCH-105
THERMAL MANAGEMENT OF SOLAR PHOTOVOLTAIC PANEL (PV) FOR PERFORMANCE ENHANCEMENT: A REVIEW

Roshan Bhagat, Dr. Samir Deshmukh

Abstract- Thermal management of solar photovoltaic panel is critical issue in operation solar photovoltaic system for generation of electricity. The efficiency of solar photovoltaic system is around 10 to 25 %. Higher operating temperature results in reduction in efficiency, overall system performance. This review paper highlights the main challenges encountered within the solar photovoltaic system and address the significance of temperature influence on performance of solar photovoltaic panel, various cooling techniques are discussed to optimize the system performance operating in practical condition and to harness the thermal energy waste from solar photovoltaic panel for improving conversion efficiency. Several research papers are reviewed and based on their focus, contribution and the type of technology used to achieve the cooling of photovoltaic panels are discussed.

Keywords- thermal management, operating temperature, efficiency, cooling technique.

MCH-106
PERFORMANCE OF A DIRECT EVAPORATIVE COOLER OPERATING IN KHANDESH REGION IN MAHARASHTRA

Dipak A Warke, Dr. Samir J Deshmukh

Abstract- The present work analyze the performance of a direct evaporative cooler in Khandesh region in Maharashtra. The experimental study is based on weather data from Khandesh region in Maharashtra. In this region in summer temperature and humidity in the range of 37 to 48 C and 40% to 70% respectively and in rainy season relative humidity reaches to more than 90%. The direct evaporative cooler consists of a aspen pads are mostly used. The performance of the evaporative cooler is evaluated using the output temperature, saturation efficiency. The output temperature of the air varies between 27.8°C and 26°C, while the cooling capacity is between 1.84 kW and 2.56 kW.

Keywords- Cooling capacity, Evaporative cooler, Saturation efficiency

MCH-107
CLEANING SYSTEM DESIGN FOR AUTONOMOUS DRIVING OF CAR

Amit Manjre

Abstract -Due to the increasing amount of casualties in road accidents around the world and also due to safety awareness and economical way of transportation, there is an increasing demand for the autonomous driving cars around the world. Now when talks are going on for complete autonomous driving cars, the real life situation like traffic problems, reliability on sensors for responding, limits the capabilities of car from being fully automated. This is where the current emphasis is going more on semi-autonomous driving cars - which would take the control of car from drivers when the road is clear and the paths are not complicated, like on motorways.

The current project explains about the various sensors being used for one of the autonomous cars of a major European OEM and the need of an cleaning or washer system for effective functioning of these sensors and how this system was designed and how it would work in real life situation.

MCH-108
DEVELOPMENT AND MODIFICATION OF POTTER'S WHEEL BY USING SEWING MACHINE PEDAL MECHANISM AND CHAIN SPROCKET

Nandkishor M. Sawai, Dr. V. G. Arajpure, Dr. C. C. Handa

Abstract- Potter's wheel is increasingly being recognized as highly sustainable for making clay or earthen pot. Unfortunately, the traditional pottery making industry is on the verge of extinction. There is a growing concern to revive this dying industry. Different processes and techniques used in pottery making are understood by carrying surveys and field visits. The electric potter's wheel is used in rural areas as an alternative to human powered potter's wheel, but it is economically not feasible. The author introduces a conceptual model to minimize the efforts and overcome problems in pottery makings. The present work deals with design and development of human powered potter's wheel, providing a solution to cater economic, ergonomically and operational problems. Sewing machine pedal mechanism has many low powered applications, which can be

used to minimize human efforts and increase efficiency. The proposed design enable researchers to provide economical and user friendly potter's wheel, which rotates efficiently utilizing the mechanical energy of the sewing machine pedal.

Keywords- Potter's Wheel, Sewing Machine Pedal Mechanism, Sprocket, freewheel, Ergonomic design

MCH-109
A RE-REVIEW OF THERMOELETRIC MODULE

Sandip Chavhan, Dr. A. M. Thakare

Abstract- In 21st century there are major two problem energy shortage and environmental defects. Thermoelectric cooler is the best solution for those two problems. This review is explaining about basic concept of thermoelectric and thermoelectric generator, including the structure optimization which significantly affects the thermoelectric generator, the low temperature recovery, the heat resource and itsapplication area. Then it reports the recent application of the thermoelectric cooler including the thermoelectricmodel and its application area. It ends with the discussion of the further research direction.

Keywords- Cooling system, Peltier effect, Thermoelectric cooler.

MCH-110
INFLUENCEOF ARTIFICIAL INTELLIGENCE IN MANUFACTURING INDUSTRIES

Prof. Ashish V. Kadu, Prof. Sandeep S. Kongre, Rushikesh Gajanan Lavhale

*Abstract—*Artificialintelligence is fully based on disciplines such as Science, Computer Science, Biology, Psychology, Linguistics, Mathematics, and Engineering. AI is the best key for better future. The purpose of AI is simply smoothening everyone's life. Now a day the problems that we are facing in present and upcoming future could definitely get solved through AI. There are several reasons for the recent popularity of manufacturing industrial AI. More cheap sensors and the automated process of data acquisition; More powerful computation capability of computers to perform more complex tasks at a faster speed with lower cost, Faster connectivity infrastructure and more accessible cloud services for data management and computing power outsourcing. This paper is a study on impacts challenges of AI in manufacturing industries.

MCH-111
AN INVESTIGATION OF TEMPERATURE DISTRIBUTION OF A CVD COATED TURNING TOOL

Sushil Ghodam, Dr. Nitin Wankhade

Abstract- The manufacturing industries experience a technological advances and development which requires high speed machining at less time. The high speed machining of the hard to machine materials put the limitation to the cutting speed and generates a lot of heat during machining which causes the tool to fail due to plastic deformation, change in mechanical properties or fracture failure of the tool. Temperature at the cutting point of the tool is a crucial parameter in the control of the machining process. Due to advancement in the machining processes, a special attention has been given on the life of a tool. To achieve this, the best way is to apply the coating to the tool. In this paper, Chemical vapor deposition (CVD) coated tool is used for experimentation and the interface temperature is measured using tool work thermocouple. The nature of temperature distribution is explained using finite element analysis.

MCH-112
RECENT TRENDS IN FOUNDRY IN CONTEXT WITH INDUSTRY 4.0- A PERSPECTIVE

Milind Sheshrao Bodkhe, Dr. Anup D. Shirbhate, Dr. Gajanan.Shankar rao Patange

*Abstract-*This paper focus on Prerequisites of understanding of Industry 4.0 in context with Indian foundries. Authors collected the information which is used or being used by Foundrymen or planning for it. By referring various primary and secondary sources such as articles by various companies and personal discussions with various foundrymen at various events since last one year, such as Indian foundry congress ,IIF chapters Newsletters etc., authors conclude that Industry 4.0 is a need of current industry and must be understood by all the concerned foundry men and concerned people.

*Keywords-*Industry 4.0, Foundry

MCH-113

PTIMIZATION OF PROCESS PARAMETERS DURING EDM OF AL/SIC METAL MATRIX COMPOSITE

Pratiksha V. Khalane, Kirankumar C. Labade, Kamlesh L. Chavan

ct- Metal matrix composites are one of the newly developed engineered materials of considerable interest. matrix composite consists of at least two constituent parts, of which one constituent part being a metal and er part may be a different metal or another material, such as ceramic or organic compound. These als are known as the difficult-to-machine materials because of the hardness and abrasive nature of cement element like silicon carbide (SiC). Hence, they impose mach inability related challenge, to tional machining process such as turning, milling etc. Electrical discharge machining (EDM) is a non-tional process becoming a popular choice for machining these materials. In view of this, the present work ed at investigating the effect of tool shape and size factor on material removal rate during electrical rge machining of aluminium based metal matrix composites, in conjunction with the variation of cal parameters namely, gap current, gap control, pulse on time, and pulse off time while keeping other cal parameters constant. In this study, LM24/SiC metal matrix composites were fabricated using liquid urgical route and the prepared composites were characterized for micro structural analysis, hardness and cal composition. Taguchi L36 (21 x 36) orthogonal array design was used to carry out the experiments. l to noise ratio and analysis of variance were used to determine the most significant parameters that nce the responses. Linear multiple regression model was developed to predict material removal rate. al microscopy test revealed fairly uniform distribution of SiC in the matrix

ords- Aluminiumalloy, Electric Discharge Machining, EDM, MMC, Material Removal Rate, Metal Matrix posites, Taguchi, ANOVA.

MCH-114

ANALYSIS OF SPUR GEAR BY USING COMPOSITE MATERIAL

Prajwal V.Gedam, Niraj A Dakhore

ract-To design the spur gear to study the Weight reduction and pressure sustain for Structural steel and posite materials Gearing is one of the most critical components in a mechanical power transmission system, in most industrial rotating machinery. Apple piller is a device spur gear in a proposed project which is er transmission device in apple piller machine. Usually the spur gear material is structural steel and alloy has used. But here in the project we finding some new material for the spur gear which reduces weight ction and pressure sustain. Automation tools will necessitate a refined application of gear technology, to gn the spur gear model using designs software, to study the impact analysis for structural steel and posite materials and to study the torque loading for structural steel and composite materials. Finally, paring and analyzing of the composite gear with existing structural steel gear is to be done.

words- structural steel,carbonfiber,epoxy resin

MCH-115

ANN FOR THE ENERGY CONSUMPTION FORECASTING IN BUSINESS BUILDING

Mr. S. M. Pimpalgaonkar, Dr. S. B. Thakre

tract- In recent years, analysing the data gathered during production process of the energy has become an ortant issue in the energy sector in order to increase the efficiency of the produced energy. In the predictive chine learning approach, the main goal is generalisation. This means the ability of the model to give sensible dictions for situations not identical to what has already been observed in the training data. The main factors ermining the predictive performance are the relevance of the sensory features, the amount of training data ilable and the adaptation of the complexity of the model to the task at hand. For the purpose of energy nservation, we present in this paper an introduction to the use of learning machines used as a data mining tool plied to buildings energy consumption data from a measurement campaign. The learning stage was done for a st part of the data and the predictions were done for the last month. Performances of the model and ntributions of significant factors were also derived. The results show good performances for the model.

ywords- data mining; predictive modelling; energy efficiency; energy consumption

MCH-116

EXPERIMENTAL INVESTIGATION OF SOLAR AIR HEATER BY VARYING RIBS IN FREE CONVECTION

Niraj A. Dakhore, Prajwal V. Gedam

Abstract- It is proved with an experiment that the rate of heat transfer can be also increased by using variety of ribs. Perforated ribs can give better heat transfer rate as compared with flat collector plate. But the limitation of solar energy i.e. fluctuation in intensity and availability in days only narrows the use of solar air heater. A better solution of use of solar panel to charge battery and use it further in night for heating of collector plate could be done. This arrangement will give hot air in night also. Performance of solar air heater is same as we got in day condition if we maintain required collector plate temperature.

In this paper the experimental setup of solar air heater is examined for free convection. To avail hot air in night condition, solar panel is installed and connected with battery. Entire experimentation is carried out and the heat transfer rate in v shape ribs and perforated v shape ribs are analyzed. Simultaneously the slight change in thermal efficiency is recorded. Obtained results are compared and discussed in detail. Same experimentation is carried out in night which gives the same behavior on a particular heating temperature. Addition of solar panel is the key-stone for this experimentation which allows use of same setup in night condition.

Keywords- Solar Air Heater, Perforated Ribs, Solar Intensity, Collector Plate, Heating Temperature, analysis

MCH-117

A REVIEW ON EXERGY ANALYSIS OF SUPER CRITICAL THERMAL POWER PLANT

Shri. A. K. Pitale Sir, Amit Nikam

Abstract- The art of energy conversion to provide convenience of doing work gave rise to various energy producing devices. Integral of these devices is thermal power plant which consumes heat energy at input end and produces mechanical work at its output end. Working according to Rankine cycle, thermal power plant has seen a paradigm shift from sub critical to critical and super critical of which super critical technology of power plant stand today on the arena of efficient power generation. The analysis of any system is done in context of finding loop ends so as to get higher efficiency system and this analysis in power plant is done conventionally by energy analysis. Exergy which provides an account of maximum amount of work stands apart from energy analysis to provide quality index to energy conversion. This quality index fetches results for each integral component of whole system and attempts to locate the major components where exergy destruction or work to be developed is lost. Super critical technology of power generation is also subjected to energy and exergy analysis which in form of various research work is presented in this paper. An attempt to define the parameters of further study on the platform of existing research is done in this present work.

*Keywords-*Supercritical, Exergy , Rankine cycle

MCH-118

A NEW EXPERIMENTAL SET UP FOR VERIFICATION OF NEWTONS LAW OF VISCOCITY FOR DIFFERENT FLUIDS.

Prasad A Hatwalne, Dr Shashank Thakre

*Abstract-*An experimental setup has been developed for the verification of newtons law viscocity. This experiment confirms direct proportionality between shear stress and the rate of shear strain. Different fluids with known value of viscocity such as glycerien, honey, water, engine oil etc were tested for charecterization.Results shown that honey shows the non newtonian behaviour and glycerian and unburnt engine oil shows the newtonian behaviour. Fluid mechanics is the study of fluids either in motion or at rest for both liquids and gases. There is a theory available for fluid flow problems and it should be backed up by experiment. As there are the various experimental setup for verifying the different laws in fluid mechanics, but there is no setup to verify Newton's law of viscosity. Here we propose the experimental setup for verification of Newton's law of Viscosity.

*Keywords-*Viscocity,shearstress,shear strain, honey, glycerien, engine oil.

MCH-119

DEFECT ANALYSIS OF BEARING USING CONDITION MONITORING TECHNIQUE: A BRIEF REVIEW

Mr. Vivek P. Kolhe, Dr. Gopal E. Chaudhari

Abstract-In today's world we tend to reduce the frequency of failure and maintenance in any business as per schedules of every machine and determined by the precise running condition of every major machinery parts utilized in industries like power plants, chemical plants, automotive industries that need precise and economical performance Bearings fail because of manufacturing error, improper assembly, loading, operation or lubrication; even if bearing is perfectly made or assembled, it will eventually fail due to fatigue of the bearing material. Condition monitoring of those machine parts like bearings, shaft and shaft mountings and installation of machine was necessary to avoid failures because in order to improve stability of work. So, condition monitoring is the process of predictive maintenance which monitors the current conditions in order to ensure safety of the machine and predicting the future condition of machines while in operation. There are many techniques of condition observance like vibration analysis, acoustic emission, oil debris observance, temperature observance. Vibration analysis is found to be the foremost wide used technique. Many techniques were obtainable and vibration observance was one among them. This paper tries the review of various sorts of bearings underneath condition monitoring techniques.

Keywords- Condition monitoring, Vibration Analysis, ANSYS

MCH-120

OPTIMIZATION OF CRANKSHAFT OIL HOLE DRILLING PROCESS- A REVIEW

Mr. Prashant H. Bhole, Dr. Gopal E. Chaudhari

Abstract- Crankshaft oil hole drilling process is one of the important step in crankshaft manufacturing process. Drill bit failure or breakage is one of the sensational issues in crankshaft oil hole drilling process. It can be minimized by controlling some input parameters. With minimization of drill breakage, productivity also should be maintained. Therefore it is necessary to optimized drilling parameters to improve drill bit life and productivity as well. This paper review the research work completed by previous researcher in optimizing drilling parameters. In past, researcher has been used the conventional multi objective optimization methods, but each methods has its limitations. From review of these papers it is observed that MOORA and TOPSIS are effective methods among other multi objective optimization methods.

Keywords- Crankshaft oil hole drilling, MOORA, TOPSIS

MCH-121

PARAMETRIC ANALYSIS AND OPTIMIZATION OF FRICTION STIR WELDING OFAA 6111-T4

Mr. Nitin B Borkar, Dr. Sanjay S Deshmukh

Abstract- Friction Stir Welding is a well known solid state joining technology. Many processing conditions and materials properties affect the microstructural evolution and mechanical behavior of the produced joints. In this study , an experimentation are performed on FSW with and without preheating to study the effect of friction stir welding process parameters like Tool travel speed, tool rotational speed and shoulder diameter on mechanical properties of Friction stir welding joint of 6111-T4 studied by using statistical analysis tool. The Quantitative analysis has gives observations like the maximum responses such as Tensile strength ,Hardness, yield strength and percentage elongation at higher rotational speed of tool, medium tool travel, larger shoulder diameter. Factorial design ,Taguchi design, ANOVA and Regression analysis indicates an influence of individual parameters on Ultimate Tensile strength and other mechanical properties of welding joint. A mathematical relations are proposed for different process parameters which gives best welding joints in friction stir welding process.

Keywords-Quantitative Analysis; Factorial Design;Taguchi Design; Anova Analysis

MCH-122

ASSESSMENT TOOLS OF ERGONOMICS FOR DIFFERENT WORKPLACES - A REVIEW

Mr. Rupesh S. Raut, Dr. N.A.Wankhade

Abstract-This paper proposes a literature review effectively on various assessment tools for different workplaces. Designing a workspace is based on the principle that there are correlations between workspace and body dimensions that cause body posture to be adapted. The main aim is to provide the reader with an accurate overview on the main scientific approaches proposed by researchers working in this area. The paper passes through the description of several research works as they run through the literature. An ergonomically design workplaces improve production and ensure the safety of workers. The importance given to human beings rather than on technical considerations. There are different methods, principles and tools applied for improving the interaction between humans and their working environment. This article discusses several important assessment tools of ergonomics for workplaces and focuses on most common injuries due to poor working conditions.

Keywords- Ergonomics, Industrial Workstation, Assessment Tools.

MCH-123

PILOT STUDY OF SINGLE SLOPE SOLAR WATER STILL AND ITS TYPES

Vaibhav V. Karsade, K. M. Watt, S. J. Deshmukh

Abstract- The easiest and effectively open kind of Solar power distillation is detached solar based still which uses unreservedly and inexhaustibly accessible solar energy for evacuation of saltiness/polluting influence from saline/bitter water. The principle disadvantage of inactive solar power still is its lower effectiveness and refining yield. Various plans of design and research have been investigated of solar oriented stills are created and tried by different analysts to satisfy water need financially. In this paper incorporates fundamental standards of solar based distillation and unique adjustments (enhancement) proposed for development in distiller yield. General scientific displaying technique of solar oriented stills. The proficiency and effectiveness of the single slope solar based still are additionally given.

Keywords-Solar power, single solar still, distillation

MCH-124

EXPERIMENTAL INVESTIGATION ON THE PERFORMANCE OF MODIFIED EVAPORATIVE COOLER

Mr. Sumit S. Kalmegh, Mr. Sumit S. Jamkar, Dr. Sachin S. Ingole, Mr. Pawan M. Kurwade, Dr. Somdatta M. Tondre

Abstract-The evaporative cooling is one of the earliest methods employed by human being for conditioning their houses. Only in recent years, it has been put on sound footing thermodynamically. It is a process of adiabatic saturation of air when a spray of water is made to evaporates into it without transfer of heat from or to the surrounding. Despite of some limitations evaporative cooling will produce a condition well within the summer comfort zone. Generally human being feels comfortable when dry bulb temperature is in the range of 22^0C to 25^0C and relative humidity is in the range of 55% to 60%. An Experimental investigation has been carried out by modifying the existing evaporative cooler. Result shows that the DBT is reduced by 13^0C; relative humidity maintained in range of comfort zone i.e. 56 % and evaporative cooling efficiency of cooler is improved up to 55% when compared with summer outdoor conditions in Vidarbha (Maharashtra, India) region.

Keywords-Evaporative cooling, Evaporative cooling efficiency, Venturi effect, DBT, Relative humidity

MCH-125

METHODOLOGY FOR DIGITAL COMPRESSION OF VIRTUAL WORLDS USING VRML

Dipak Vinayak Shirbhate, Dilip Sahebrao Ingole

Abstract - Virtual Reality Modelling Language called as VRML was an initial step in the direction of Web 3D. Second version of VRML called as VRML2 or VRML97 is an international Standard of 3D representation on Web with support for interactive behaviors. Web 3D is also sometimes referred as 3D on web. Web 3D allows user to browse 3D contents using Internet browsers like Internet Explorer, Mozilla Firefox, Opera, Google Chrome and so on. Alternatively, there are many other alternative technologies of Web 3D similar to VRML but VRML is widely accepted format of import/export utility for many popular CAD software for exchange of

CAD data. Moreover, VRML code can be easily imported in software like MATLAB which gives more controls for further development. This paper proposes new methodology of constructing VRML worlds which enables extreme data compression suitable for virtual worlds constructed out of high polyline objects. With proposed new methodology, it is possible to develop mobile App with less than 10 MB size for VRML world. The proposed new methodology enables users to create interactive VRML worlds without any data or functionality loss. The proposed methodology helps in expanding scale and boundaries of Virtual Worlds which was limited to few 3D objects with Conventional Methodology. This paper discuss how VRML worlds can be endlessly expanded with space jump concept.

Keywords- VRML, Virtual Reality, Web 3D

MCH-126

REVIEW ON PASSIVE COOLING TECHNIQUES USING PHASE CHANGE MATERIALS

Rucha. R. Kolhekar, N. W. Kale

*Abstract-*Increasedenvironmental awareness regarding impact of green house gas emissions and CFCs lead into search of environmentally friendly cooling technologies for buildings which consume minimum or no energy. This paper reviews various passive cooling techniques by using Phase change materials. Passive cooling techniques are closely linked to the thermal comfort of the occupants, and it is possible to achieve this comfort by reducing the heat gains, thermal moderation and removing the internal heat. In the paper, various methods adopted under these techniques and information regarding Phase Change materials and their desirable properties are reviewed.

Keywords- Passive cooling, Thermal Energy Storage, Phase Change Materials.

MCH-127

FINITE ELEMENT ANALYSIS OF SCHATZ GEOMETRY MECHANISM

Mujawar Riyaj Yusuf, Prof. K.R. Sontakke

*Abstract-*Mixing of two or more materials or compounds i.e. heavy density metal powder in the fluid is a complicated task. In traditional mixing method the metal powder and fluid mixing is carried out on uni-directional stirring machine. This paper investigates the limitations of the traditional mixer. The stirrer of traditional mixer rotates in one direction only which create a particular and limited flow pattern in the fluid hence particles tend to stick to the wall of container due to the centrifugal force. Most of the materials are settle down at the bottom of the container due to high density. In traditional mixer, the other main issue is the vibrations, thrust and bending forces that create too much noise and high machine maintenance. The research work is based on the Schatz geometry shaker mixer mechanism which is used for a homogeneous mixing of powder substances with differing specific weights and particle sizes. The product is mixed in its own closed container. The mixing container is set into a three dimensional (3D) movement that used for rotation, translation and inversion according to the Schatz geometric mechanism theory. It is design as well as Finite Element Analysis (FEA) of driving system of Schatz mechanism with Three Dimensional motion mixer to produce desired motion pattern, increase mixing rate and quality by finding productivity effectiveness by using CATIA V5R20 and ANSYS.

*Keywords-*ANSYS, traditional mixer, Powder, Schatz Geometry mechanism, Shaker Mixer, CATIA V5R20

MCH-128

DESIGN AND TESTING OF SOLAR POWERED EVAPORATIVE AIR COOLER

Naynakumar S. Ambagade

Abstract- Energy saving mechanism is the reason behind this research project that led us to design and test a new evaporative air cooler. The conventional energy source i.e. Electrical energy which is produced in thermal power plant, is ultimately responsible for hot and humid conditions, has lots of adverse impact on environment like global warming , air pollution, water pollution and waste generation etc. also these energy generation required huge amount of coal that's why the people are more fascinating towards solar energy. In hot and humid conditions the need to feel relaxed and comfortable has become one of few needs and for this purpose utilization of systems like air-conditioning and refrigeration has increased rapidly. Air cooler are one of the major consumer of electrical energy. In future the demand can be expected to increase because of changing working time, increasing global warming and increase comfort expectations. In this project, design cooler is powered by solar energy instead of conventional energy source. We are also testing the efficiency of cooler motor and pumping system by giving different voltage and current input. The system is consists of solar panel, motor,

pump, blades, water tank, wood wool and honeycomb. The conventional air cooling system is most of the time not suitable for villages due to longer power cut durations and high cost of products. This model is designed by considering the need of offices, schools and small commercial consumers.

*Keyword-*Energy saving, evaporative air cooler, solar energy

MCH-130

DESIGN AND ANALYSIS OF LPO 1618 BS-IV

TATA VEHICLE BRAKE DRUM

Shaikh Moin Shaikh Mobin, Prof. K. R. Sontakke

Abstract- A brake is a mechanical device which restrains motion. A drum brake is a brake that uses friction caused by a set of shoes or pads that press against a turning drum-shaped part called a brake drum. The brake drum is a critical component that encounters high temperatures and develop thermal stresses during application of brakes. In expansion, the application of shoe pressure gives rise to mechanical loads. The energy retained by brakes is dissipated in the form of heat. This heat is scattered in the surrounding atmosphere to stop the vehicle. So the examination takes into account both the thermal stresses and mechanical stresses together. During the brake applied the brake drum components experience high temperature and thermal stress. Due to this the drum brake material should possess a high thermal conductivity, thermal capacity and high strength. Generally, safety parts of LPO1618 TATA vehicle and trucks are brakes, the common material are used for drum brake is cast iron. A model is created with the help of software CATIA .

*Keywords-*Drum brake, Static analysis, Catia.

MCH-131

DESIGN AND DEVELOPMENT OF MINI KAPLAN TURBINE – A REVIEW

Prof. A.S. Tumane, Dr. R.A. Kubde, Malvika Mukesh Jagtap, Vandana Papulal Yadav, Aishwarya Prakash Methe

*Abstract-*Hydropower is a renewable resource that can satisfy an important percentage of global energy. The world has a huge potential of small hydro Kaplan turbine power plants. The world energy demands are increasing. In this scenario the micro hydro Kaplan power plants gains special attention. The development of micro hydro Kaplan power plants on large scale will generate enough energy for the world inhabitants. This paper presents the modeling of the runner of a low head Kaplan for a specific site. To enhance its hydrodynamic efficiency by reducing weight, shape alterations, blade angle with combination of materials.

MCH-132

A REVIEW ON COOLING OF SOLAR PHOTOVOLTAIC PANELS USING NOVEL TECHNIQUES.

Siddhant Deshmukh, Vijay V. Kale

*Abstract-*In this paper various novel cooling techniques which can be used in enhancing the performance of the solar photovoltaic cell are being discussed. The solar energy is available abundant in nature and easy to harvest it, and provides a natural solution to move ahead in fulfilling the energy requirement. We know that Solar Photovoltaic cell converts solar energy to electrical energy. It has been seen that the decrease in panel temperature will lead to an increase in electrical efficiency, so in recent years different cooling techniques have been proposed and tested, whereas with the rise in temperature of panel the electrical efficiency drops to a magnitude of 0.55%C. Several other cooling techniques including conductive cooling, phase change material cooling, ribbed wall heat sink cooling, air duct cooling and water spray cooling system etc are also being tested and used to identify their effective impact on Photovoltaic panel performance. Finally, various novel cooling techniques for the enhancement of performance of solar photovoltaic cells are being elaborated and discussed in this paper.

MCH-133
FORECAST OF FEMUR BONE SKELETON WITH ANATOMICAL PARAMETER OF INDIAN POPULATION

Mr. Gajanan D. Mandavgade, Mr. Tushar R. Deshmukh, Mr. Sanjay M. Kherde, Mr. Sachin S. Ingole

*Abstract-*Total hip replacement (THR) is a surgical procedure that replaces a diseased hip joint with artificial bone known as implant. Due to extensive variations in the sizes and shapes of femur bone, a selected commercial hip implant sometimes may not be best-fit to a patient, or even it cannot be applied as geometric discrepancies between the femur and implant. The aim of the study is to develop mathematical approach through which geometry of femur can be obtained by using anthropometric data. From result it was explicit that the measured value and value obtained by means of mathematical model showed authentic correlation in male and female categories. The model was validated by comparing measured value with calculated value and the agreement was found qualitative as coefficient of correlation were more than 0.90 for each category.

Keywords- Femur bone, Modeling, Anatomical parameter, Hip implant

MCH-134
EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER USING NANOFLUID IN COMBINATION WITH TWISTEDTAPE WITH ELLIPTICAL HOLES AND TWISTED TAPE WITHOUT HOLES

Mr. Aniket V. Deshmukh, Saurabh M. Paropate, Sandeep S. Kongre, Sumit A. Gedam

Abstract- An experimental investigation was carried for measure tube-side heat transfer coefficient, friction factor, heat transfer enhancement efficiency of water for flow in an exceedingly circular tube fitted with rectangular-cut twisted tape insert. A copper tube of twenty six millimeter internal diameter and thirty millimeter outer diameter and 900 millimeter check length was used. A stainless-steel rectangular-cut twisted tape insert of five.25 twist magnitude relation was inserted into the sleek tube. The rectangular cut had eight millimeter depth and fourteen millimeter dimension. A regular heat flux condition was created by wrapping Nichrome wire round the check section and fiber glass the wire. Outer surface temperatures of the tube were measured at five totally different points of the check section by T-type thermocouples. 6 thermometers were used for measure the majority temperatures. At the outlet section the measuring system was placed in an exceedingly combination box. The painter numbers were varied within the vary 10000-19000 with heat flux variation fourteen to twenty two kW/m^2 for swish tube, and twenty three to forty kW/m2 for tube with insert. Nusselt numbers obtained from swish tube were compared with Gnielinski correlation and errors were found to be within the vary of -6% to -25% with r.m.s. price of two hundredth. At comparable painter variety, Nusselt numbers in tube with rectangular-cut twisted tape insert were increased by a nonanofluid of 0.3 to 2.9 times at the value of increase of friction factors by 1.4 to 1.8 times compare thereto of swish tube. Heat transfer improvement efficiencies were found to be within the range of 1.9 to 2.3 and magnified with the rise of painter variety.

MCH-135
OPTIMIZATION OF GATING SYSTEM FOR REDUCING DEFECTS IN ELEVATOR PART (WHEEL) USING AUTO-CAST SOFTWARE AND NUMERICAL METHOD

Nikhil Dukare, Rahul Sakharkar, SumitJamkar

Abstract- casting is a manufacturing process of making a complex metal shapes .Manufacturing of sound casting is the main aim for foundry men. To achieve this number of shop floor trial casting has carried out and one repetition can take up a week or more, which affects the regular production. Many researchers reported that about 90% of the defects in castings are due to wrong design of gating &risering system and only 10% due to manufacturing problems. Casting simulation process can able to overcome these problems. It has observed that various type of simulation software has used in foundry, out of which fem and vem based casting simulations are widely used in foundry. In the present paper, a elevator part (wheel) model has considered for study the solidification behavior of green sand casting and detection of hot spots in castings with the help of mentioned above casting simulation softwares. The simulated results also compared with the experimental works.

Keywords- auto-cast, sand casting, mold filling, solidification, simulation

MCH-137

OPTIMIZATION OF PROCESS PARAMETERS FOR TENSILE STRENGTH AND NUGGET DIAMETER IN RESISTANCE SPOT WELDING

Prof. B. S. Gawai, Prof. R. R. Gadge, Prof. S. D. Kurhekar

Abstract- The welding current, welding cycle and Pressure are the essential factors that are controlled so as to give the fundamental mix of Heat and pressure to form the weld. The impact of different parameters on Weld quality of Hot rolled E-34 material is decide by utilizing Minitab 16 software and using Design of experiment. Response surface methodology is chosen to design the experiments. The highly significant factor was determined by Analysis of Variance. In the analysis, it was observed that predicted and experimental results were in good agreement and the coefficient of determination were found to be 0.967and 0.955for Tensile strength and Nugget diameter implies adequacy of derived model. The objective of research to find out progression in welds strength and also reduces different welding defects.

Keywords-Resistance Spot Welding (RSW) ,Response Surface Method (RSM), Tensile Strength, Nugget Diameter, Analysis of Variance (ANOVA).

MCH-138

MANUFACTURING OF BIODEGRADABLE SCAFFOLDS USING 3D PRINTING: A REVIEW

Purval A. Ganthade, Ashish M. Wankhade, Dr. Sanjay M. Kherde, Dr. Dilip S. Ingole

Abstract- Additive Manufacturing is an advanced manufacturing process which is not only cost efficient, but is also completely customizable. With the aid of CAD/CAM and 3D printing technology in Biomedical Science, variety of organs can be generated. Bone being structurally strong and porous, scaffolds with approximate porosity can be made using 3D Printing technology. As accidents are on a rise, the demand for organs is also increasing. To tackle the problem, 3D printing of Biomaterials can be taken into account, following which numerous patients can be treated and relieved. While there are synthetic as well as natural polymers for printing, the choice of the material is made according to the location and type of fracture.

Keywords- 3D Printing, Biodegradable Polymers, Grafting, Scaffold.

MCH-139

DESIGN AND ANALYSIS OF CAR UMBRELLA

Mr. Dnyaneshwar B. Sapkal, Mr. A. B. Wankhade

Abstract- Car parking umbrella can be one of the effective solution for traditional car covers and the covered parking space which are only available in some of the big residential buildings, corporate offices and malls in big cities. Car umbrella can be carried at any location which can provide shelter to car and protect it from sunlight & rain. Various components of car umbrella will be designed using IS standards. Selection of covering sheets material will be done by studying properties of various materials. 3D modeling will be done in Solid works. Structural analysis of various components will be carried out in ANSYS.

Keywords- Solid works, LAM ,ANSYS

MCH-140

ENERGY RECOVERY FROM ORGANIC FRACTION OF MUNICIPAL SOLID WASTE AND FOOD WASTE BY ANAEROBIC DIGESTION

Vaishali Misal, Samir Deshmukh

Abstract- Food and Municipal waste is the single largest component of the waste stream by weight. These organic wastes needs to be managed in a sustainable way to avoid depletion of natural resources, minimize risk to human health, reduce environmental burdens and maintain an overall balance in the ecosystem. Anaerobic digestion is a promising technology which could effectively address the problem of waste disposal yielding valuable outputs like biogas and fertilizers. Anaerobic digestion of a mix of food, Cow dung, and Municipal waste and Mix wastes has been carried out in a 20-liter digester within 14 weeks. The wastes were an aerobically digested in an anaerobic digester at ambient temperature. The objective of this paper was to study the performance of the anaerobic process used food, Cow manure, Municipal waste and Mix wastes as substrates in a four digester for biogas production .And comparing yielding rate in four reactor. The feed consisted of food, Cow manure, Municipal waste and Mix wastes were collected from a traditional market. The

total waste weight was 250 gm, mixed manually once in the feeding. pH in the range of 6.8-7.4 and temperature of 28-46°C. The gas generated is clean and smokeless can be effectively used for different energy application. The sludge remaining after the digestion has good manorial value. From the observation Biogas produced in four reactor, Cow manure is an excellent substrate for the production of biogas when co-digested with other kinds of waste materials such as organic industrial waste, household waste and sewage sludge.

Keywords- Biomass, digester, gasification, yield

MCH-141

MULTI OBJECTIVE OPTIMIZATION OF INCREMENTAL FORMING PROCESS ON COMMERCIALLY PURE TITANIUM SHEET BY USING TAGUCHI-GREY AND REGRESSION

Hemant Gurav, Firoj khan Pathan, Sunil Dambhare

Abstract- Emerging demand for producing complex shapes on variable materials gives rise to the need for an alternative to the conventional forming process. Incremental forming is a new technique for deforming sheet metals by the application of step-by-step incremental feed to a deforming tool (DT). In this study, commercially pure Titanium sheets were used in incremental forming with an aim to investigate the influences of process parameters such as feed rate, tool diameter, and pitch on the forming of these alloys. By using the Taguchi Method L9 array were finalized for experimentation. Incremental forming was carried out on constant thick pure Titanium sheets in a CNC vertical milling machine. The process was done using a hemispherical shaped tool made of high-speed steel. Optimization of incremental process parameters with the aid of Grey Relational analysis has also been carried out to identify the combinations of the parameters that yield better surface characteristics on the formed sheets. From Grey relational Taguchi Approach it was found that feed rate 2600 rpm, tool diameter 12mm and pitch 0.2 mm are the most promising combination that gives the better surface characteristic. The regression equation is given the optimum solution in the range of operating condition of input parameters. The optimized results of the composite regression equation and regression equation for GRG gives an approximately a similar result.

Keywords- Single point incremental forming, regression. Grey relation, Taguchi

MCH-142

THERMAL PERFORMANCE ANALYSIS OF SOLAR FLAT PLATE COLLECTOR INCORPORATED WITH LATENT THERMAL ENERGY STORAGE SYSTEM (PCM)

Ayub Tamboli, Sunil Dambhare, Firoz Pathan

*Abstract-*Solar thermal technologies are encouraging, given the fact that solar energy is the cheapest and most commonly available of all renewable energy technologies. The recent promotion of solar energy for various applications has received significant attention from researchers, to improve the overall efficiency of various solar thermal systems. Thermal storage systems are essential to overcome the shortcoming of the discontinuous nature of solar energy. Latent heat storage by PCM are preferred over the other forms due to its higher energy storage density and a narrow operational temperature range. Among the family of solar collectors, Flat plate collector (FPC) is currently receiving considerable attention for its wide range of application. In this work experimental investigation has been carried out to investigate the thermal performance of solar flat plate collector with integration of latent thermal energy storage (PCM-60). The effect of mass flow rate of air on the instantaneous collector efficiency of solar collector with and without integration of thermal energy storage has been also investigated. The mass flow rate of air is varied from 0.01249 to 0.01527 kg/sec. The result shows that integration of TES with FPC enhances the collector efficiency by 13-20 % and at the same time it provides the air at required temperature when intensity of solar radiation is low. Thus by integrating TES with FPC hot air can be obtained even after sunshine hours. With increasing the mass flow rate of air collector efficiency also enhances.

*Keywords-*Flat plate collector, Thermal energy storage, Phase change material etc

MCH-143
ROLE OF PARABOLIC DISH IN SOLAR COOKING SYSTEM: A REVIEW
Harshal D. Patil, Nishikant W. Kale

Abstract- A review on various aspects of solar energy for cooking is presented. The review includes design, experimental, applications and potential aspects of solar energy for cooking. A literature is based on various parabolic dish type solar cooker and its various components. State of the art concentrating solar technologies suitable for institutional level cooking includes Parabolic dish and Scheffler dish. A thorough literature survey of applications and potential of solar energy are summarized. Also, the solar tracking system and various heat storage system literatures are reported. Design, construction and operational details of solar cookers have been discussed. Major findings and observations on various aspects of the same are presented.

Keywords- solar cooker, parabolic dish, design, application, potential.

MCH-144
AN OVERVIEW OF HORIZONTAL AND VERTICAL AXIS MAGNUS   WIND TURBINES
Prof. Ms. Pragati Rajendra Mamankar

Abstract- The product of a Japanese start-up called Challenergy, technology called the Magnus Vertical Axis Wind Turbine (VAWT) could make use of those damaging winds. Instead of the traditional propellers found on regular wind turbines, Magnus VAWT has a rotating cylinders that power a vertical-axis generator. It relies on the 'Magnus effect', a phenomenon that explains why air curves when passing by a spinning object. A Magnus VAWT turbine consequently has three vertical cylinders that rotate around a vertical axis to generate power. It's already been tested in Nanjo City in Okinawa, Japan, where it withstood wind speeds of 225kph/140mph. Although they're don't appear to be as efficient as regular wind turbines, if Magnus VAWT turbines can capture even some of the kinetic energy from a typhoon, that won't matter.

Keywords- Horizontal axis wind turbine, Vertical axis wind turbine, Magnus effect, rotating cylinders.

MCH-145
PERFORMANCE EVALUATION OF AIR SOURCE HEAT PUMP WATER HEATER WITH R407C AND R22 UNDER INDUCE DRAFT SPLITED EVAPORATOR COIL
V. D. Tonge, A. P. Thakare, A. S. Patil

Abstract-Air source heat pump water heaters are a promising technology and it uses the same mechanical principle as refrigerators and air conditioners. The thermal performance of the Air Source Heat Pump for Water Heating system is influenced by refrigerants, system structure, ambient temperature, water temperature, etc. The HCFC refrigerant that were once expected to be permanent replacement fluid are now on the list of regulating substances due to their impact on climate change and there is growing concern about future use. The transition to ozone friendly chlorine free substances is not finished yet as the HCFC fluids still need to be replaced. The refrigerant R-22 is being phased out in developed countries because of high global warming potential and ozone depletion. By January 2020 HCFC's like R-22 will be 99.5% phase out worldwide and will no longer be produced. So new refrigerants are to be searched with lower ozone depletion potential such as propane, pentafluoroethane and blend mixtures of HFC's.

The purpose of the work presented in this paper is to investigate the performance of heat pump under suction fan condition with split evaporator coil. In this work the performance of heat pump is tested for different refrigerants (R22, R407C). The results show that both refrigerant systems have similar performance characteristics. COP of R407C is 1.75% less than that of R22. R407C refrigerant can be used either in existing systems or in new systems that were originally designed for R22.

Keywords-Air source Heat pump, Water heating, Heat pump

MCH-146
ENHANCEMENT OF HEAT TRANSFER RATE OF AUTOMOBILE RADIATOR BY USING ETHYLENE GLYCOL WATER BASED ZRO$_2$ & AL$_2$O$_3$ NANOFLUID
A. S. Patil, V. D. Tonge, A. P. Thakare

Abstract- Enhancement of heat transfer coefficient is an important research areas in various field of engineering. Heat transfer coefficient can be increases by using various nanofluids which will further improve the performance of heat exchanger like Radiator. In this paper more focused on the heat transfer enhancement of

Car radiator by using Nanofluid. Many researchers have done a lot of research work on nanofluid technology and its applications in the heat transfer devices. This paper reviews the improvements of heat transfer coefficient of coolents with Ethylene Glycol Water Based ZrO2 Nanofluid and its comparison with Al2O3 Nanofluid. Nanofluid is the new generation fluid, which improves properties such as density, thermal conductivity, viscosity. specific heat of basic fluid in which nanoparticles added. The Reynolds numbe, Prandtl number, and Nusselt number are inherent functions of thermophysical properties of nanofluids and these numbers are strongly influence the convective heat transfer coefficient which will further decide the rate of heat transfer. The thermophysical properties may vary with temperature and volumetric concentration of nanofluids such as Density. specific heat. thermal conductivity and viscosity. Effect on prandlt number, Reynolds Number, heat transfer coefficient of different particle volumetric concentrations solutions are discussed in this paper.

Keywords-Nanofluid, Reynolds number, Prandtl number, Nusselt number, thermal conductivity viscosity, convective heat transfer, heat exchanger, radiator.

<div align="center">MCH-147</div>

DESIGN AND DEVELOPMENT OF MEASUREMENT SYSTEM FOR AUTOMOTIVE TYRE PARAMETERS

A. P. Thakare, A. S. Patil, V. D. Tonge

Abstract- In automobile engineering under automobile components tyre are one of the important components. It is directly responsible for safety and performance of the vehicle. Tyres are one of most important parts of the vehicles, because tyre provides only connection between the vehicle and the road. Therefore, it is important to have a good understanding of the behaviour of these important parts.

The aim of this project is to improve the understanding of tyre behavior with tyre wear. Experiment are performed by to verify the correlation between tyre pressure, normal load, road conditions and its effects. Behavior of the tyre shown on the basis of the force generation between road and tyre and heat generation in tyre by using rate of change of temperature with time. How the different temperature generation performed in different controlled conditions shown on the basis of experimental collected data.

Keywords- Automobile engineering, Temperature, Tyre behavior, Tyre wear.

<div align="center">MCH-148</div>

NUMERICAL STUDY OF EFFECT OF STAGGERING THE ARTIFICIAL ROUGHNESS ON HEAT TRANSFER COEFFICIENT

Prof. Bhushan S Rane, Dr. Sanjay S. Deshmukh

Abstract- Use of artificial roughness on the absorber plate of solar air heater can significantly improve the performance of solar air heater. Arrangement of roughness element on the absorber plate also affects the performance of heat transfer. In this study an attempt is made to investigate the effect of staggering the roughness element on the amount of heat transfer coefficient. Steady states external forced convection heat transfer from artificially roughen absorber plate of solar air heater having spherical Elements is studied numerically. Ansys fluent software is used to develop a 3D numerical model for investigation of effect of staggering the artificial roughness element on the overall heat transfer coefficient. It is observed that average heat transfer coefficient reduces in comparison with the inline arrangement of roughness element.

Keywords- Absorber plate, solar air heater, Heat transfer coefficient, Staggered arrangement.

<div align="center">MCH-149</div>

AN IOT FRAMEWORK FOR AGRICULTURE APPLICATION CASE STUDY

Dr. C. R. Patil, Prof. M. G. Trivedi, Mr. P. R. Dharpure

Abstract- Although the overall technological advancement in India, there has been less attentive towards the Agriculture sector. Due to the lack of technological awareness among the farmers in India the position of producing maximum yield crop is not satisfactory. Conventional practices are only carried out in Agriculture field, and as the literacy rates of farmers are significantly low, applying and working with new technology is a major concern. If instead of conventional practices if they implement the blend of new technological support, then this will be the major sector for employment generation as well as increasing the GDP of India. As of 2018, this sector contributes about 14.39% of the total G.D.P. of India but around 50% of the people are involved in this. The productivity of the farming industry can be increased with the help of IoT. The application of the IoT ecosystem can bring revitalization in the agricultural field. All the parameters related to soil temperature, water

level, humidity, air quality, crop yield, crop price, real-time data and proper timing of crop to be delivered to market, which will help to increase productivity. The study says we will have 9.6 billion people on Earth by 2050 which will increase demand for food and IoT in agriculture should be an important driver to meet this requirement. Therefore we need to develop such a system that will enhance farming procedures. The objective of this paper is to present an idea of how the IoT ecosystem can enhance the overall farming output as well as increasing GDP.

Keywords-IoT Framework, Agriculture Framework, Sensors in Agriculture, Smart Farming, Efficiency, Productivity

MCH-150

MULTIPURPOSE SOLAR SYSTEM FOR ELECTRICITY GENERATION AND VARIOUS HEAT ENERGY BASED APPLICATIONS

Miss. Ashwini V. Kale, Dr. Shashank B. Thakre

Abstract- Solar energy is a safe alternative which can replace current fossil fuels like coal and gas for the generation of electricity that produce air, water and land pollution. This paper describes the multiple use of solar energy by using solar panel as well as parabolic dish collector with efficient solar tracking system. The solar panel is a device that collects and convert the solar energy into electricity. It is also known as photovoltaic cell. The parabolic dish collector system consist of mirrors arrangement in a shape of parabola and concentrates the incident beam irradiation onto a small region called a focal point, where the receiver needs to be located. The solar parabolic dish collector is one of the most efficient energy conversion technologies among the concentrating solar power system(CSP). In this project the two parabolic dishes are used for the hot water generation and steam generation as per requirement as well as for the solar cooker system. The solar panels and parabolic dishes are works combined at the same time. For better performance, maximum efficiency and maximum utilization of solar energy as well as for the safe working automatic solar tracking system are used that orients the payload towards the sun. The solar tracking system are completely dependent on the Light Dependent Resistor (LDR'S), Electronic Control Unit (ECU) and DC Motor. ECU works as a decision maker unit for this set up. It compares the data received from the LDR'S and it supplies the power to the dc motor through the power supply unit and DC motor are run according to the requirement. The power required for ECU are supplied from the battery through the power supply unit and battery are charged by using the energy obtained from the solar panel. It is fully independent system, it does not required any external supply or power for its working. It is totally dependent on the energy obtained by the sun only.

Keywords- Solar Panel, Parabolic dish collector, ECU, Solar tracking, LDR.

MCH-151

SUPPLY CHAIN MANAGEMENT FOR PRODUCTION-LOGISTICS

Ankur Suresh Sakhare, Aditya Ajay Choudhari

Abstract-The main objective of production logistics is the supply of the right product, in the right quantity and condition, in the right place, at the right time, to the right customer, at the right price (laws of 7R). Now a day, highly competitive environments are leading organizations to implement Supply Chain Management (SCM) to improve performance and gain a competitive advantage. SCM involves integration, co-ordination and collaboration across organizations and throughout the supply chain. There has been a unison that logistics as well as supply chain management is a vital research field, yet with few literature reviews on this topic. In addition, we put some insights and future research directions in this field of engineering.

Keywords-Supply chain management, production, logistics, organizations, product and management

MCH-152

COMPARATIVE STUDY OF SOLAR COOKERS

Tharesh K. Gawande, Dr. D.S.Ingole

Abstract- Now days the use of solar energy becomes very crucial because of its ample availability throughout the year free of cost, and on the contrary conventional fuels are becoming precious. So it became imperative to use this energy for maximum possible occurrences. One of the challenging areas of the use of solar energy is the solar cooking. This paper presents a comparative study of various types of solar cookers commercially available. The need of heat storage systems for solar cookers, their feasibility, materials and their properties are also discussed.

Keywords- Solar energy, solar cookers, heat storage system, renewable energy systems.

MCH-153

EXPERIMENTAL STUDIES OF VCR CYCLE BY USING VARYING REFRIGERANT AND CHARGING CONDITION

Miss. Apurva O. Sable , Dr. M. R. Dharme, Prof. K. T. Dhakulkar

Abstract-This work aims for development of one of the eco-friendly vapour compression refrigeration system. The present vapour compression refrigeration system. Uses R-134a refrigerant, which has many adverse effects, which is minimized by use of other alternative refrigerant. This work consists of using eco-friendly hydrocarbon gas mixture as refrigerant, which does not deplete ozone layer and it can be used in the commonly used system without any significant change in the system. In this analysis, the performance of vapour compression refrigeration system is assessed experimentally with two different refrigerants. Various parameters are measured, like compressor discharge temperature and pressure. The results obtained are compared and the optimum performance in terms of higher refrigeration effect, Charging condition of refrigerant and COP are studied.

Keywords-Vapour Compression Refrigeration system, R-134a, Hydrocarbon refrigerants, Coefficient of Performance.

MCH-155

ADVANCES IN HYBRID DRYERS: REVIEW IN TECHNOLOGICAL DEVELOPMENT

Prof. Saurabh S. Bhange, Mr. Rahul Mohite, Mr. Shubham Khursange, Mr. Siddhesh Wasu

Abstract- Drying of the food is one of the oldest & finest methods of food preservation. Food dehydration finds its roots in the history of mankind, even the cavemen found the dehydration as the best alternative for food storage. To overcome the shortcomings of open sun drying various dryer designs had been proposed so far. From the conventional method of open-air drying to hybrid dryers, many technological changes are introduced in the drying mechanisms. This paper provides information about various designs of those solar dryers which are already developed for helping the reader to develop new and modified dryer structures. For this purpose, many designs are discussed in this paper.

Keywords- Food Drying, Solar Energy, Solar Dryer, Hybrid Dryer.

MCH-156

DEVELOPMENT OF HYBRID TRICYCLE

Sumit Gedam, Parag Jawanjal, Chetan Bundele, Dr. Satish G. Bahaley

Abstract- Mobility being an issue for the handicapped people, there has been an introduction of many different kinds of vehicles. The options are limited as very few automobile industries focus on them. The cost of these vehicles is another issue. Some of these people cannot afford the vehicle. Also, after buying the maintenance of these vehicles is very high and periodic. Therefore, keeping these issues in mind, an eco-friendly tricycle has been designed. This work aims to reduce the cost, increase the speed. Safety of the handicapped has been taken care of by means of various safety measures. This tricycle is manufactured with an intention that it could be used in the college premises as well as for long route of travel up to few kilometers by a handicapped person & a normal persons.

Keywords- Tricycle, Physically Handicapped, Eco-friendly, Electric Motor.

MCH-157

A REVIEW OFCOMPUTER APPLICATION FOR SELECTION OF HARMONIC GEAR DRIVE

Utkarsh D. Rathod, Dr. D. Y. Dhande, Dr. P. S. Shivdas, Dilip S. Rathod

Abstract-As harmonic-drive transmissions find increased use and acceptance among engineers and designers for robots, manipulators, machine tools, etc. The demand for an accurate and reliable understanding of harmonic-drive operating behavior becomes useful. This review paper is devoted to the study of the harmonic gear drive, which gives high-speed reduction & power transmission capacity. This drive provides precision with much less space as compared to other power transmission drives as well as there is a negligible internal backlash. This paper will discuss the construction, working principle, review on design of harmonic drive, and characteristics of the drive with its advantages. For the selection of proper Drive according to required applications, it is

necessary to the study, to develop a computer program that allows the correct choice of the harmonic drive by developed algorithm. This paper deals with a method of selection of the proper gear drive according to requirements. The three-dimensional models of the gear drive explain details about selection. This complexity necessitates a more real-life approach based on computer application.

Keywords- Harmonic Gear Drive, Strain Wave, flexispline, wave generator, Computer Application.

MCH-159
ENHANCEMENT OF SURFACE HARDNESS OF MILD STEEL BY USING EDC

Kishor Watane, Dr. A D. Shirbhate

Abstract- Electro discharge machining (EDM) is a typical machining process, which is widely used for machining of very hard materials used for engineering purposes for different field. In Electrical Discharge Coating (EDC) process tool electrode which is manufactured by powder Metallurgy and connected to anode with sample work-piece is selected as cathode in electro discharge machine. In presence of dielectric, tool electrode is worn out during EDM and the material removed from the surface of electrode deposited over the work-piece surface. This paper is expressing an advanced method of surface modification by EDC and work carried on Titanium Carbide and Copper (TiC- Cu) composite Coating deposited on mild steel substrate. Titanium (Ti) and Copper (Cu) powder in different weight percentages has been used for preparation of tool electrode by P/M process. Micro hardness testing has been performed on the coating to measure the hardness values of coated surface.

Keywords- Electric Discharge Machine (EDM), Electro Discharge Coating (EDC), Mild Steel (MS)

MCH-160
EXPERIMENTAL INVESTIGATION OF SIO2 COATING ON THE PERFORMANCE OF SOLAR PANEL

Girish L. Allampallewar, Dr. Shashank B. Thakre

Abstract- Sun is source of enormous and infinite source of renewable energy. This energy is continuously available at free of cost. Use of this clean energy for the purpose like Power generation, water desalination, drying is need of hour. Solar energy can be effectively used for the generation of electricity either by photovoltaic or concentrated solar power in last few decades. The main challenge with this is the heavy loss of heat during this conversion. Researchers have made efforts to reduce this loss so as to increase efficiency of solar panels.

In this paper, the effect of SiO2(Sol-gel method) coating on the performance of multicrystaline Solar panel has been examined. Multiple Solar Panels with different coatings at same orientation, inclination, location has been tested for analyzing improvement in performance. For the analysis of performance of Solar Panel, hourly readings of Voltage and Current have been taken with the help of Multimeter. Hourly trends in energy generation, efficiency has been analysed.

Keywords- Solar panel, photovoltaic, Silicon, SiO2, Nanoparticles

MCH-161
RECENT TRENDS IN APPLICATION OF NANOTHECHNOLOGY IN BIO-FUELS

Aboli Halwe, Samir Deshmukh, Rupam Wani, Nikhil Jadhav

Abstract- In today's era the biggest challenge, that world is facing, is the challenge of energy crisis. Main cause is the less availability of fossil fuels. In current scenario there is a huge need of finding new alternatives which can meet the rising energy demandsdue topollution problems. Bio-fuel is indeed one of the best alternatives which can be even manufactured with the help of cheaper resources like vegetable wastes, waste cooking oil. But bio-fuel production methods inculcate many loopholes such as slower reaction rate, saponification etc. For resolving these problems various techniques are being explored, out of which nanotechnology is trending one as it is found to be more effective way for bio-fuel production. Bio-fuel production rate are found to be improved with the use of nanocatalyst and nanostructures. Out of different bio-fuels, biodiesel is of current interest topic of many scientists. This paper is a brief review of biodiesel development, especially utilization of nanotechnology in biodiesel production and enhancement. Variousmethodologies of biodiesel production using nanoparticles are discussed in this paper with the reference of literature studies in order to get panoramic view about applications of nanotechnology in enhancement of biodiesel.

*Keywords-*Energy, pollution, fossil fuels, nanotechnology, nanostructures, biodiesel.

MCH-162
DESIGN AND DEVELOPMENT OF ORANGE FRUITS GRADING MACHINE
Kalpesh M. Deshmukh, Parag D. Varma, Deep V. Varma, Sumit V. Saharkar

Abstract-Size basis grading of oranges is an important requirement of fruit market. Also quantifying the fruit shape gives value addition to it. Proper grading of oranges is beneficial for both consumers as well as producers. Therefore any system which performs the grading operation will be of great value. The main objective of this paper is to design and develope orange fruit grading machine which is capable of grading oranges on size basis.

In this, machine the grading of oranges is performed by passing it through the gap formed between two endless expanding opening conveyor belts. This machine grades the oranges in six different grades. Successfully designed system consists of feeding hopper, grading unit and collecting tray.

MCH-163
FRICTIONLESS WIND TURBINE USING MAGNETIC LEVITATION
Prof. Ashish Deshmukh, Deepak Khadse, Radha Gawande, Shashank Prasad

Abstract- The paper describes the implementation of different type of a wind turbine for purpose of power generation. A vertical axis wind turbine (VAWT) with use of magnetic levitation technology for optimal performance of wind turbine has been discussed. With the merits of conventional VAWT, the merits of starting at low wind-speed, higher efficiency, low noise emission, etc. Are also discussed. The major consequence in front of conventional wind turbine is loss of energy during rotation. By using nature of permanent magnet as a perfect replacement for ball bearings levitation of the turbine is intended thus reducing energy losses while rotation. Using this effect wind turbine blades are placed on a rod for obtaining stability during rotation. Power is then generated by using an axial flux generator, which has incorporated the utilization of permanent magnets and a set of coils.

Keywords-VAWT, Magnet, Magnetic Levitation, Wind Turbine, Energy, Wind Power.

MCH-164
ANISOTROPIC BACKGROUND WITH VARIABLE DECELERATION PARAMETER IN MODIFIED THEORY OF GRAVITY
R. P. Wankhade, A.P. Pardey, U.W. Kaware

Abstract- In the present investigation, LRS Bianchi type-I universe with variable deceleration parameter in the frame work of theory of gravity is considered where is an arbitrary function of Ricci scalar and trace of the energy momentum tensor . The gravitational field equations are obtained in the metric formalism, which follows from the covariant divergence of the stress-energy tensor. The field equations correspond for a specific choice of , with the individual superior functions and . It is observe that in f(R, T) gravity, an extra acceleration is always present due to coupling between matter and geometry. Allowing for time dependent deceleration parameter the solutions of the field equations and some physical and geometric properties of the model along with physical acceptability of the solutions have also been discussed in details.

Keywords - LRS Bianchi type-I universe, theory of gravity, cosmological constant.

MCH-165
Performance Evaluation Studies of Aero-Gas Turbine Hot Section Components by Using Automated Thermal Paint Interpretation Technique
Sachin V. Bhalerao   U. Chandrasekhar. Mohammad Ali Kadampur

Abstract- Ever increasing thrust levels of modern aero gas turbine engines entail high turbine entry temperature (TET) with concomitant rise in metal temperatures of hot section components. Among numerous consequences of high TET, the occurrences of hot spots demand comprehensive studies as these hotspots lead to premature failure of critical engine modules. Full-field metal temperature mapping is used for identifying these hot spots and also for guiding heat transfer engineers towards optimal internal cooling configuration. Temperature mapping of complex geometrical surface contours of the engine components is a challenging task and necessitates special techniques. Conventional pyrometry and thermocouples are found unsuitable for thermal mapping of these components as they suffer from inherent functional deficiencies like susceptibility to noise and

debonding respectively. In a quest to utilize innovative thermal sensors to obtain a comprehensive temperature data it was revealed that the luminescence thermometry exhibit the potential to generate a complete thermal gradient with a visual record even on the hard to access components with the most complex geometries maintaining the tested components in usable conditions. But apart from their innate ability of generating a valid thermal gradient data the luminescence thermometry suffers from the errors due to manual interpretation owing to the limitations of human vision system and yield a subjective and less reliable output. A more sophisticated interpretation technique is in demand for an edifying and scrupulous thermal analysis. This paper provides an advanced methodology involving thermal paint technique for full-field thermal mapping of hot section components of the gas turbine engines.. Thermal paint colour patterns and contours corresponding to the engine operational conditions and temperature variations are obtained and are analysed using an advanced interpretation technique. The performance of the developed thermal mapping technique is validated using CFD and numerical techniques Numerical estimates are subjected to qualitative and quantitative comparisons with thermal paint test data. Combined applications of numerical and experimental techniques not only demonstrate the proposed validation methodology but also improve the accuracy of temperature prediction to levels of ± 30 OC. The novel measure with its copious advantages has led to a new temperature measurement protocol that is speedy, efficient, cost effective and ingenuous for the obscure thermal analysis of gas turbine engines.

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MBA-102
ROLE OF MICROFINANCE INSTITUTIONS IN RURAL DEVELOPMENT – OVERVIEW OF RELATIONSHIP, AVENUES AND CHALLENGES

Prof. Gauri Sarang Kalmegh, Prof. Saurabh A. Pachkhede, Prof. Rajkumar K. Dhanuka

Abstract- Microfinance is a concept which tries to improve the living condition of poor and unemployed in long term. Microfinance provides financial services to people with no access to capital and commercial banking services. Since 1990s, poverty reduction has taken priority at both national and international development levels. Considering this scenario this paper emphasizes on study of relationship between rural areas of India and microfinance. Recently, Microfinance Institutions have developed much new mechanism to cater to the needs of rural people but still they are partially inefficient on the aspect of their development. MFIs can play a vital role in bridging the gap between demand and supply of financial services which will indirectly help in uplifting the standard of living of rural people only if some of the critical challenges confronting them are addressed. Thus, this paper describes the relationship between the MFI's and rural development, the loopholes in operational efficiency and study of multiple challenges affecting proper implementation of microfinance in rural areas. This paper is conceptual in nature and based on secondary data entirely.

Keywords- Microfinance, Rural Development, unemployment, Poverty eradication.

MBA-104
REDEFINING COMPETENCY: A PARADIGM SHIFT FOR INDUSTRY 4.0

Dr. Nishant Khandelwal

*Abstract-*Industries today have no choice but to align with the constantly changing internal and external environment. Be they educational institutions, business or government organizations. Indian Education is also put on the path of ensuring employability or entrepreneurship. The organizations of today's industries are expected to meet the requirement of industry 4.0. The challenge is that some of it cannot be known now. The need is to ensure that the degrees being provided by various institutions equip the graduates with ability to learn, change, adapt, be committed to and endure during difficulties. Similarly, the new age organizations, be they in the field of technology, engineering, commerce or education, require such workforce which can create, innovate, learn and change as per the changing environment. Moreover, the stakeholders are now well informed, assertive and are socially and legally supported. An organization cannot ignore its stakeholders and only focus on its customers. The demand is for such products and services which meet the interests of environment, society and future generations besides the customers and shareholders. There is also a clear focus and demand on emotional and spiritual fulfillment of individual employees and organizational social responsibility. Hence, one needs to think anew and afresh. We cannot depend on those definitions and theories which have survived till Industry 3.0. Employees being the backbone of any economy or organizations, needs to be capable of sailing through such turbulent times and unpredictable changes. One of the ways to identify, assess and develop such capability of the employees is through understanding and ascertaining their competencies. In general, competency is that which is close to standard and an objective way of looking at one's suitability or match for a role. However, this understanding has not resulted into organizations becoming more competitive as evident from various survey indicating towards poor employability and on ground skills. Besides, several important things are left out in this approach of defining a competency which would tap the undiscovered and deeper insights on one's emotions, calling and purpose. Both students and employees have found themselves caught in the trends and hypes causing them an unfulfilled career and isolated & incomplete outcomes for industries and societies. Besides, it has also resulted into students being groomed or trained in a partial way in institutions, and employees' capability being developed in an incomplete manner in industries. In order to meet the requirements of sustainable and humanly valuable outcomes both for industry and society, we need to rethink our understanding of what is a Competency or human capability i.e. what makes one willing, able, commit to, do it and do it well and enduringly so in flexible way. The outcomes must meet the standards of quality, creativity and sustainability. Hence, this conceptual paper is rethinking on the human capability or competency which needs to be redefined, assessed differently and developed uniquely. There is a need for this paradigm shift for the industry 4.0 which is already setting in and even beyond that.

*Keywords-*employee competency, competency 2.0, competency innovation, redefining competency, competency paradigm

MBA-105

A STUDY ON THE IMPACT OF SOCIAL MEDIA MARKETING ON CONSUMER BEHAVIOR WITH REFERENCE TO AMRAVATI CITY

Prof. Ashish Deshmukh, Prof. Pratiksha Kalmegh

Abstract- Marketers are faced with new challenges and opportunities within this digital age. Digital marketing is the utilization of electronic media by the marketers to promote the products or services into the market. The main objective of digital marketing is attracting customers and allowing them to interact with the brand through digital media. This study has described various forms of digital marketing & its impact on consumer perception. The examined sample consists of one hundred respondents randomly selected to analyze role of digital marketing & its impact on consumer perception. Collected data has been analyzed with the help of various statistical tools and techniques.

Keywords- Consumer Behaviour, Digital Marketing, Social Media Marketing, Consumer Perception

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BE Civil Engineering	180
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Mechanical Engineering	180
Computer Science & Engineering	180
Information Technology	120

P.G. Courses	Sanctioned Intake
ME Environmental Engineering	07
Digital Electronics	20
Computer Science & Engineering	42
Production Technology & Management	18
CAD/CAM	18
Structural Engineering	18
Information Technology	42
Thermal Engineering	18
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Total Intake (UG+PG) : 1221

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REPORT

"Faculty Development Programme "on Entrepreneurship 2017-18

Details of FDP:

S. No.	Event	Organizer	Duration	Period/Date	Beneficiary
1	"Faculty Development Programme "on Entrepreneurship	ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur.	2 days	08/12/17 To 09/12/17	9+6 Faculties

The FDP was conducted under the MoU between ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur. (Lemon Ideas. Lambent IT Park, Harihar Nagar, Besa, Nagpur. Call: 8407911142 Email: snehil@lemonideas.in)

Location:
Prof. Ram Meghe Institute of Technology and Research, Amravati

Recourse Persons:

1. Mr. Deepak Maneria - Chief Idea Farmer, Lemon Ideas, Nagpur

Deepak is a passionate Creator, Executor and brings along multiple creations. He is the Chief Idea Farmer at Lemon School of Entrepreneurship (LSE). His rich experience includes Managing Talent and People functions in IT industry. Before founding Lemon ideas, he co-founded Lambent Technologies (Now GlobalLogic). He is founding volunteer with Youth based non-profit initiative ONE Foundation since 2011. He is diversely educated in Computer Engineering, Management and Psychology. He learned Creativity & Innovation from IIM Ahmedabad. Deepak firmly believes in change as mother of innovation and is on a mission Innovation by EveryONE! Deepak has mentored around 25+ startup ideas and 500+ talent-professionals as part of his personal interest in youth training and mentorship during 15+ years of rich experience. He loves Adventures, Driving, Music and Philanthropy.

2. Mr. Mukesh Asher - Co-Founder, Lemon School of Entrepreneurship, Nagpur

Mukesh Ashar Chairs the Behavior Science faculty at Lemon School of Entrepreneurship. Mr. Mukesh is an entrepreneur and international trainer (JCI certified) with experience in telecom & industrial supply domain for last 25 years. He is a mechanical engineer and attended international trainee fellow program from JCI, USA. His training career showcases many programs from motivational training, train the trainers to behavioral & presentation skills since last 20 years. His hard core entrepreneurship skills and experience for training youth in developing these skills makes him the most experience person with over 1500 training programs

for youth across the. His dynamic personality acts as an "energy influencer" for Lemon Entrepreneurs. He is founding member of Lemon School.

Photographs:

Faculty Development Programme on Entrepreneurship 8.12.17 & 9.12.17

Participants:

Participants:

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REPORT

Entrepreneurship Awareness Camp 12.9.17

Details:

S. No.	Event	Organizer	Duration	Period/ Date	Beneficiary
1	Entrepreneurship Awareness Camp	ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur.	1 day	12/09/17	200 Students

The EAC was conducted under the MoU between ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur. (Lemon Ideas. Lambent IT Park, Harihar Nagar, Besa, Nagpur.
Call: 8407911142 Email: snehil@lemonideas.in)

Lemon School of Entrepreneurship:

Lemon School of Entrepreneurship (LSE) is a unique, new age Gurukul with a vision to support, mentor and train budding as well as early stage entrepreneurs. The pedagogy being learning by Doing, Learn through reflections and real life experimentation. We believe that creation of work portfolio through experiential learning and pre-incubation training is vital for entrepreneurship. LSE is wholly owned brand of Lemon Ideas Innovations Pvt. Ltd.

Objective

The objective of conducting workshops on entrepreneurship at college level is to train students and motivate them towards entrepreneurship as a serious career. The objective is to help students to understand the basics aspects of entrepreneurship relevant to idea-reality journey.

Goals

To train and guide students on different aspects of entrepreneurship so that they are well equipped while starting their venture.

Location:

Prof. Ram Meghe Institute of Technology and Research, Amravati

Resource Person:

Deepak Menaria | Chief Idea Farmer

Deepak is a passionate Creator, Executor and brings along multiple creations. He is the Chief Idea Farmer at Lemon School of Entrepreneurship (LSE). His rich experience includes Managing Talent and People functions in IT industry. Before founding Lemon ideas, he co-founded Lambent Technologies (Now GlobalLogic). He is founding volunteer with Youth based

non-profit initiative ONE Foundation since 2011. He is diversely educated in Computer Engineering, Management and Psychology. He learned Creativity & Innovation from IIM Ahmedabad. Deepak firmly believes in change as mother of innovation and is on a mission Innovation by EveryONE! Deepak has mentored around 25+ startup ideas and 500+ talent-professionals as part of his personal interest in youth training and mentorship during 15+ years of rich experience. He loves Adventures, Driving, Music and Philanthropy.

Participants:
Students studying in third and final year (from all branches) who are interested in entrepreneurship.

Photograph:

Entrepreneurship Awareness Camp 12.9.17

REPORT

Entrepreneurship Awareness Camp 30,31/8/2018

Details:

1	Entrepreneurship Awareness Camp	ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur.	2 days	30/08/18 & 31/08/18	160 Students

The EAC was conducted under the MoU between ED Cell PRMIT & R Badnera & Lemon School of Entrepreneurship Nagpur. (Lemon Ideas. Lambent IT Park, Harihar Nagar, Besa, Nagpur.
Call: 8407911142 Email: snehil@lemonideas.in)

Lemon School of Entrepreneurship:
Lemon School of Entrepreneurship (LSE) is a unique, new age Gurukul with a vision to support, mentor and train budding as well as early stage entrepreneurs. The pedagogy being learning by Doing, Learn through reflections and real life experimentation. We believe that creation of work portfolio through experiential learning and pre-incubation training is vital for entrepreneurship. LSE is wholly owned brand of Lemon Ideas Innovations Pvt. Ltd.

Objective
The objective of conducting workshops on entrepreneurship at college level is to train students and motivate them towards entrepreneurship as a serious career. The objective is to help students to understand the basics aspects of entrepreneurship relevant to idea-reality journey.

Goals
To train and guide students on different aspects of entrepreneurship so that they are well equipped while starting their venture.

Location:
Prof. Ram Meghe Institute of Technology and Research, Amravati

Resource Person:

Mr. Mukesh Asher - Co-Founder, Lemon School of Entrepreneurship, Nagpur

Mukesh Ashar Chairs the Behavior Science faculty at Lemon School of Entrepreneurship. Mr. Mukesh is an entrepreneur and international trainer (JCI certified) with experience in telecom & industrial supply domain for last 25 years. He is a mechanical engineer and attended international trainee fellow program from JCI, USA. His training career showcases many

programs from motivational training, train the trainers to behavioral & presentation skills since last 20 years. His hard core entrepreneurship skills and experience for training youth in developing these skills makes him the most experience person with over 1500 training programs for youth across the. His dynamic personality acts as an "energy influencer" for Lemon Entrepreneurs. He is founding member of Lemon School.

Participants:
Students studying in third and final year (from all branches) who are interested in entrepreneurship.

Photograph:

Entrepreneurship Awareness Camp 30, 31.8.18

Entrepreneurship Awareness Camp 30, 31.8.18

Entrepreneurship Awareness Camp 30, 31.8.18

REPORT

Participation in FDP on Entrepreneurship

Details:

1	Participation in FDP on "Entrepreneurship"	DST & PRMCEM Badnera	2 Weeks	04/10/18 To 17/10/18	04 Faculty

Four faculty members from PRMITR Badnera were deputed for the sponsored FDP on "Entrepreneurship" organized by Prof. Ram Meghe College of Engineering & Management Badnera- Amravati from 04 th October to 17 th October. The FDP was sponsored by Department of Science and Technology.

Participants:

S. No.	Name	Contact No.	Email
1	Prof. A.S. Deshmukh	9960748657	ashish.deshmukh1989@gmail.com
2	Prof. S.V. Deshmukh	9545557811	SVDeshmukh@mitra.ac.in
3	Prof. N. V. Kadam	9096044405	niketak@mitra.ac.in
4	Prof. G. D. Pachaghare	9096917014	gpachaghane@gmail.com

Location:
Prof. Ram Meghe College of Engineering & Management Badnera- Amravati

All participants successfully completed the FDP. They are working as a "Entrepreneurship Coordinators" for their respective departments.