

Profile



Name *Dr. Shivraj Laxmanrao Patil*
 Father's name *Shri Laxmanrao Gangaram Patil*
 Date of birth *January 1st, 1962*
 Address: *PQ 202 Prof. Quarters,
 SSBTs Arts , Commerce and Science College ,
 Bambhori, Post Box no. 94 Jalgaon,
 425001MS
 Mob no 9423774260,
 Email: profsipatil007@gmail.com*
 Age as on date: *60 years ,*
 Sex: *Male*
 Nationality: *Indian*
 Category: *Open*
 Total Teaching Experience: *34Years,*

Academic qualification:

Degree	Specialization	Year of Passing	Percentage	Institute	University/ Board
<i>S S C</i>	<i>-</i>	<i>1978</i>	<i>50</i>	<i>Shardanagar boys higher secondary school Sagroli(MS)</i>	<i>SSC Board Aurangabad (MS)</i>
<i>H S C</i>	<i>Science (maths,phy, chem.)</i>	<i>1981</i>	<i>48.82</i>	<i>Junior college Degloor (MS)</i>	<i>HSC Board Aurangabad (MS)</i>
<i>B Sc</i>	<i>Geology</i>	<i>1984</i>	<i>69.32</i>	<i>Science college Nanded (MS)</i>	<i>Dr Babasheb Ambedkar Marathwada University Aurangabad(M)</i>
<i>M.Sc. (Tech)</i>	<i>Applied Geology</i>	<i>1987</i>	<i>71</i>	<i>University Department of Geology</i>	<i>Rashtrasant Tukodoji Maharaj Nagpur University Nagpur (MS)</i>
<i>Ph D</i>	<i>Geology</i>	<i>2011</i>	<i>-</i>	<i>SSBTs College of Engineering and Technology, Bambhori, Jalgaon</i>	<i>Kavayitri Bahinabai Choudhari North Maharashtra University, Jalgaon, MS</i>

Experience: A) In Chronological order starting from the present Job. 34 Years

Sr. No	Designation	Employer	From To		Total Exp.	Scale
1	Principal	SSBT's Arts, Commerce and Science College, Bambhori, Jalgaon	01//01/ 2022	Till date	3Months	AS per UGC Norms
2	Professor Civil Engineering	-----	01//07/ 2012	31/12/2021	9 yrs 05 months	Rs.37400 -67000 AGP 10000
3	Associate Professor	SSBT's College of Engineering and Technology Bambhori, Jalgaon	01/ 03/ 2010	30/06/2012	2 Years 3months	Rs.37400 -67000 AGP 9000
4	Lecturer in Selection	SSBT's College of Engineering and Technology Bambhori, Jalgaon	01/02/2007	28/02/2010	3 yrs	12000-420-18300
	Sr. Lecturer		01/12/2002	31/1/2007	5 yrs 1 months	10000-325-15200
5	Lecturer		04/07/1988	30/11/2002	14 yrs 4 months	700-1600-
6	Lecturer	University Department of Geology ,Nagpur University Nagpur	July 1987	March1988	One year	Consolidated

B) Experience as 'Lecturer 'Sr. Lecturer, Lecturer in Selection

(in years and months): Total 22 Y 05 M

C) Experience as 'Associate Professor'

(in years and months): 02 Y 02 M

D) Experience as 'Professor '

(in years and months) 9 Y 05M

E) Details of approval as a Lecturer: University reference:

(Poona University CCO / 421/ 165 dt.22.07.1988)

F) **Details of approval as a Principal : University reference:**

(NMU/18/337/2022 DATED 11/04/2022)

G) Life Member of Indian Society for Technical Education (LMISTE)

H) **I got 128.9 Research Score vide letter no KBCNMU/18/API-**

ARS/996/2021 , Dated 29/11/2021 as per Appendix II , Table 2 of UGC

Research area:-

Title of Ph D thesis: Reuse of Fly Ash to enhance soil fertility and as a Building Aggregate: A Case Study of Deepnagar Thermal Power Plant, Bhusawal”.

Guide: **Dr M V Baride**, Formerly Registrar, North Maharashtra University, Jalgaon, MS; Presently Associate Professor at Z B Patil College, Dhule.

Details of research work done:

My Ph D work is a case study done for the re-use fly ash of Thermal Power plant of Deep Nagar, Bhusawal (MS). The fly ash obtained from Deep Nagar Thermal Power Plant has been used for following three objectives:

1. **Soil nourishment:** Laboratory scale studies are done using local crops in order to determine the optimum proportion of fly ash that can enhance the crop growth. The crops thus produced are examined from edibility point of view. (**10 % to 15%** fly ash comes out to be optimum for plant growth.)



2. **Cement replacement in concrete:** To determined the optimum proportion of fly ash is to enhance the compressive and flexural strength of cement concrete. The effect of using fly ash on cost of structure is analyzed. (For compressive strength it is **5 to 15%** of fly ash as optimum proportion for higher strength. For flexural strength up to **10%** fly ash is found to be accepted)



3. In clay bricks manufacturing: To determine the optimum proportion of fly ash that can be used in clay bricks to improve compressive strength and water absorption by laboratory testing and is compared with standard values. Effect on efflorescence development is also determined. (It is observed that **5 to 10%** fly ash-clay mixture shows higher compressive strength.)



R & D Activity in college:-

- 1) Guided several batches of students for projects of their final year .
- 2) Design and Layout of Oxidation pond for the town of Kandhari near Bhusawal (MS) in collaboration with the engineers of MJP.
- 3) Design of Rain water Harvesting scheme for the campus.
- 4) Case study of housing project at Mamurabad for serviceability feasibility examination.

Research Papers published in Peer-Reviewed Journals

Sr no	Title of the paper with page Nos.	Journal name with ISBN/ISSN No	Impact Factor	Number of total authors	First/Principal/Corresponding author
1	Enhancing soil fertility by fly ash 1(1), 67 – 69. 2010 S L Patil, M V Baride, M Husain,	An International Research journal of Agriculture and Allied Sciences (Green Farming), ISSN-0974-0775	2.07 (IP)	03	First
2	Fly ash for soil nourishment: a case study for brinjal and ground-nut 1(1 & 2), 25-29. 2010 S L Patil, M V Baride, M Husain,	<i>Environmental Conservation Journal</i> ISSN- 0972-3099	0.914	03	First
3	Fly ash Concrete for road pavement: a Techno-Economic Analysis 1(3), 93-100 2010 S L Patil, M V Baride, M Husain,	International Journal of Advanced Engineering Technology, E-ISSN 0976-3945	5.54 (RJIF)	03	First
4	Fly ash Concrete- A Technical Analysis for Compressive Strength Vol II , 128-129. 2012 S L Patil, J N Kale , and S Suman	International Journal of Engineering Research and Studies ISSN-2249-8974	0.42	03	First
5	Carbon Credit Gains due to Reuse of Fly Ash in Concrete Technology 2013	International Journal of Engineering Research and Technology	0.42	03	First

	S L Patil , V R Diware, and M Husain	ISSN-2278-0181			
6	Utilization of Fly Ash as Soil Amendments in Agricultural fields in Khandesh Area Vol 7, Issue 2, 1-4 2017 Dr S L Patil , Swapnil Wagh, Shubham patil	Indian Streams Research Journal ISSN 2230-7850	5.1	03	First
7	Optimal Blending of Fly ash with Geospatial characteristics of soil Vol 3, Issue 3, PP 176-182 2017 Dr S L Patil , Saurabgh Naik, Nikhil Nainani , Akash Khanchandani , Akash Virani, Subham Surve , Karan Lalwani	International Journal of Advance Research , Ideas And Innovations in Technology ISSN 2454-132X	4.29	06	First
8	Assessment of mass awareness and Willingness for Environmental protection 2017. Dr S L Patil , Dr S B Pawar, Dr.V R Diware	International journal of creative research Thoughts ISSN 2320-2882	7.97	03	Joint author
9	Application of information technology for Environmental pollution control 2018 Dr S L Patil , Dr S B Pawar	International Journal of Management, Technology and Engineering ISSN 2249 – 7455,	6.3	02	First
10	Replacement of fine aggregate using glass material in concrete PP881 – 884 2019 Dr S L Patil , Ratilal patil ,	884 International Journal of Advance Research, Ideas and Technology ISSN 2454-132X	4.2	06	Joint author

	Chetan Patil , Swarna Patil, Pratima Valvi, Puja Gade,				
11	Treatment of sewage wastewater using an agricultural waste corn cobs PP 51 – 56 2019 Dr S L Patil , Lalit Patil, Ruturaj Patil, Rohan Patil, Gopal Vairalkar , Kranti Deore,”	International Journal of Advance Research, Ideas and Technology ISSN 2454- 132X	4.295	06	Joint author
12	To improve the Fertility of Soil using Bio char, PP1325-1329, 2019 Dr S L Patil , Nikita Atolkar, Moreshwar Patil, Prasant Baviskar , Abhishek patil, Vaishali Savale,	International Journal of Advance Research, Ideas and Technology ISSN 2454-132X	4.295	06	Joint author
13	Experimental studies on concrete utilizing red mud as partial replacement of cement 2019 Dr S L Patil ,Bhumesh Kamrani , Akashy patil ,Mohd Owais , Kapil Jangid	International Journal of Advance Research, Ideas and Technology ISSN 2454-132X	4.295	05	Joint author
14	Biochar for Soil Nourishment –A Case Study for Tomato & Chilli, PP4823-4825, Volume 9, Issue 6 2020 Dr S L Patil , Mayur Lothe, Samadhan Lothe, Bhushan Saindane, Yashkumar Pendhare, Kunal shinde	International Journal of Innovative Research in Science Engineering and Technology e- ISSN: 2319-8753,p- ISSN : 2320-6710	7.5121	06	First

**paper presentation in Seminars/ Conferences/full paper in
Conference Proceedings International / National /State/University**

Sr no	Title of the Invited lecture/paper presentations/ full paper in Conference Proceedings	Title of the conference / Seminar	Organized By	Level International/ National/State/ University
1	Salinity- a case study of Tapi basin” 28-29 January 1999.	National level seminar on Salinity in Purna Alluvial Basin	at Govt College of Engineering Amravati	National
2	Solid waste management for the campus of COET Bambhori 30 TH Oct 1999.	National level seminar on Geo-technical and Environmental Aspect of Managing Municipal Solid Waste,	MNREC Allahabad,	National
3	“Industry Institute Interaction, a path Ahead 23-24November 1999	National level seminar on Towards Excellence in Technical Education in 21 ST century	College of Engineering Pusad (MS)	National
4	Performance Appraisal of water treatment plant for the city of Jalgaon 25-26 December 1999.	IWWA National level seminar on Operation and Maintenance of Water Supply Schemes	Indian Water Works Association Amravati (MS)	National
5	Curriculum Design Environment 16-18December 2001	International Congress of Chemistry and Environment Proceedings of ICCE2001	ICCE2001 Indore (MP)	International
6	Audit of Water Works at Bhusawal and Jalgaon 16-18December 2001	International Congress of Chemistry and Environment Proceedings of ICCE2001	ICCE2001 Indore (MP)	International
7	Value based Engineering Education and compliance expected from self financing engineering colleges” 15-16 September 2003.	State level Convention of ISTE Goa-Maharashtra convention on the theme of Value based Quality Engineering Education: a call of the time,	JTM College of Engineering Faizpur	State level
8	Future perspective of Industrial Waste Water	National level seminar on Geo-Environmental Hazards- a future	JTM College of Engineering	National level

	Management 6-7 October 2003.	perspective,	Faizpur (MS)	
9	An Oxidation Pond in River!!!” 25-27December 2005	International Congress of chemistry and environment	ICCE2001 Indore (MP)	International
10	Environmentally Consistent Reuse Methods of Fly ash March 20 th 2008	Indo-Italian Conference on Green and Clean Environment	MAEETRs MIT Pune	International
11	Fly Ash Enriched Bricks” Dec 3-4, 2009	Indo-Italian Conference on Emerging Trends in Waste Management Technologies,	MAEETRs MIT Pune	International
12	Construction Technology Scheme of Green Building 11 th March 2012	National level seminar on Green& Clean Technology	SSBTs College Of Engineering &Technology, Bambhori ,Jalgaon ,M.S.	National level
13	Energy Recovery from Municipal Solid Waste March 29 th 2013	International Conference on Advances in Energy Technology,	SSBTs College Of Engineering &Technology, Bambhori ,Jalgaon ,M.S.	International
14	Towards Zero Energy a case study of pearl river tower Guangzhou Feb 25- 26 , 2014	<i>International Conference on Sustainable Development</i>	SSBTs College Of Engineering &Technology, Bambhori ,Jalgaon ,M.S.	International
15	Waste water treatment ISSN : 978-93-88544-95-5 28-12-2019	International Conference on Global Trends in Science, Technology, Humanities ,Commerce and Management (ICGTSTHCM19)	<i>SSBTs College Of Engineering &Technology, Bambhori ,Jalgaon ,M.S.</i>	International

**Orientation / Refresher/ STTP / Workshop/ Syllabus Up-gradation
Workshop/ Training Teaching-Learning-Evaluation, Technology Programs?/
Faculty Development Programs**

Sr. No	Name of the Course	Place	Duration	Sponsoring Agency
1	Environmental management- a future perspective. ,(One week)	JTM college of Engineering Faizpur (MS)	21 st -25 th December 2000	AICTE- ISTE
2	Coastal erosion areas protection and management , (Two week)	NITK Suratkal (KS)	6 th -18 th January 2003	AICTE- ISTE
3	Rain water harvesting for rural and urban areas. (Two week)	Mepco schelnk College of Engineering Shivakashi, (TN)	1 st -12 th December 2003	AICTE- ISTE
3	Watershed Management using GIS and Remote Sensing	Periyar Manianmmai College of Technology for Women Vallam , Thanjavur TN	3-7 th January 2005	AICTE- ISTE
5	Geographic information systems and its applications,	IIT Mumbai	14 th -18 th February 2005	AICTE- QIP

	(One week)			
6	Orientation Program for Engineering Teachers	SSBT's College of Engineering and Technology, Bambhori, Jalgaon	11 th -13 th July 2003.	Jointly Organized by SSBT's College of Engineering and Technology, Bambhori, Jalgaon and Engineering and Education Foundation ,Pune
7	One day workshop Disaster Management and Safety,	SSBT's College of Engineering and Technology, Bambhori, Jalgaon,	23 rd January 2010.	National Safety Council ,
8	One day workshop on Awareness in Auditing Practices	SSBT's College of Engineering and Technology, Bambhori, Jalgaon,	1 st March 2010	Max Certification Pvt Ltd Mumbai
9	International Workshop on "Digital Governance and Hotspot geoinformatics	M.J.College Jalgaon	1 st -7 th June 2009	By K.C.E Society JalaSRI Watershed Surveillance & Research Institute M.J.College Jalgaon.
10	one day National workshop on Watershed Management and Development	School of Environment &Earth Sciences Department KBCNMU	19 th September .2008.	School of Environment &Earth Sciences Department KBCNMU Jalgaon

11	One Day National Seminar on “Nano Technology Perspective &Future”	SSBT’s College of Engineering and Technology, Bambhori, Jalgaon	8 th March 2008	SSBT’s College of Engineering and Technology, Bambhori, Jalgaon
12	One Day National Seminar on Low Cost Automation	SSBT’s College of Engineering and Technology, Bambhori, Jalgaon	21 st April 2007	SSBT’s College of Engineering and Technology, Bambhori, Jalgaon
13	One Day National Seminar on Quality Engineering Education	SSBT’s College of Engineering and Technology, Bambhori, Jalgaon	26 th Dec.1998.	Jointly Organized by SSBT’s College of Engineering and Technology, Bambhori, Jalgaon, KBCNMU Jalgaon and Engineering Education Foundation Pune
14	Three Day Advanced Training Program on Green Buildings,	GHRIE&M, Jalgaon	6,-8 December, 2019	IGBC’s GHRIE&M, Jalgaon
14	One Day workshop on Syllabus Framing	SSVPSs B S Deore College of Engineering Dhule	31 st January 2013	SSVPSs B S Deore College of Engineering Dhule

15	One Day workshop on Syllabus Framing	SSBT's College of Engineering and Technology, Bambhori, Jalgaon	28 th January 2019	SSBT's College of Engineering and Technology, Bambhori, Jalgaon
16	One Day Seminar on Adoption and promotion of E- Learning in Higher Educational Institutes	SSBT's College of Engineering and Technology, Bambhori, Jalgaon	5th January – 2019	Internal Quality Assurance Cell ,SSBT's College of Engineering and Technology, Bambhori, Jalgaon
17	National Seminar on Ground Water Salinity, water Resource Development and Management of Purna Alluvial Basin	Government college of Engineering , Amravati	28-29 th January 1999	Government college of Engineering , Amravati
18	One day Orientation Workshop on Outcome Based Accreditation Process and Parameters	Veermata Jijabai Technology Institute (VJTI), Mumbai -19	4 th November 2012	NBA under TEQIP

19	Poster -Fly ash as a soil Nourishing agent for Tomato crop University level Research Festival Avishakar 2007'	KBC North Maharashtra University Jalgaon M.S	18-19th December 2007.	KBC North Maharashtra University Jalgaon M.S
20	Poster -Fly ash as a soil Nourishing agent for Tomato crop' State level in Avishakar 2008,	SNDT Women's University Mumbai.	10-12 th January 2008.	SNDT Women's University Mumbai. Inter University Research Festival

Creation of ICT mediated Teaching Learning pedagogy and content and development of new and innovative courses and curricula

Sr. No	Innovative pedagogy	Course for which it is applied
1	Engineering Geology Manual Link http://in.docworkspace.com/d/Saf_rJvVmYAsirSL3qinFA	S E (Civil) Engineering
2	Surveying and geomatics Field Book Link https://drive.google.com/drive/folder/1HLRiu14fq1T1oS5XD7dGMYNBsoBnEnmg?usp=sharing	S E (Civil) Engineering
3	Advanced Surveying Field Book - Link https://drive.google.com/drive/folder/1HLRiu14fq1T1oS5XD7dGMYNBsoBnEnmg?usp=sharing	B E (Civil) Engineering

Design of new curricula and courses

Sr. No	Title of curricula and courses designed	Name of the program
1	Engineering Geology	S E (Civil) Engineering
2	Surveying and Geomatics	S E (Civil) Engineering
3	Remote Sensing	B E (Civil) Engineering
4	Geographic information system	B E (Civil) Engineering
5	Watershed management	B E (Civil) Engineering
6	Geology for Engineers	B E (Civil) Engineering

* E-Content

Developed complete notes of subjects Surveying and Geomatics, Advance Surveying, Watershed Management, Remote Sensing and Geology. Prepared their power point presentations and coupled with animations wherever required. Also developed laboratory Manuals in the subjects Surveying and Geomatics, Advance Surveying, Watershed Management, Remote Sensing and Geology, Manual, field book . The e – content of these material is made available to students through Moodle. Also shared on Google link <https://drive.google.com/drive/folder/1HLRiu14fq1T1oS5XD7dGMYNBsoBnEnmg?usp=sharing>

Research guidance :-

I got recognition as PG teacher for Master of Engineering in Civil Engineering with specialization in environmental engineering.

Sr.No.	Ph.D. / M.Phil./ P.G dissertation	Degree awarded/ Thesis submitted	Guide/ co-guide
1	P.G dissertation 2012-13	Degree awarded	Guide
2	P.G dissertation 2013-14	Degree awarded	Guide
3	P.G dissertation 2014-15	Degree awarded	Guide
4	P.G dissertation 2015-16	Degree awarded	Guide
5	P.G dissertation 2016-17	Degree awarded	Guide
6	P.G dissertation 2017-18	Degree awarded	Guide

Subjects taught:

At UG level

1. Engineering Geology at SE Civil Engineering .
2. Advanced Engineering Geology at B E Civil Engineering.
3. Remote sensing in geomorphology and Civil Engineering at B E Civil Engineering .
4. Watershed management at B E Civil Engineering.
5. Surveying and Geomatics at SE Civil Engineering .
6. Elements of civil Engineering at FE Engineering
7. Advanced Surveying Lab at B E Civil Engineering .
8. Engineering Geology Lab at SE Civil Engineering .
9. Geology for Engineers at B E Civil Engineering .
10. Geographic Information System at B E Civil Engineering .
11. Surveying and Geomatics Lab at SE Civil Engineering .
12. Projects and Seminars for final year students in Civil Engineering Department.

At PG level:

1 Watershed management at M E Civil Engineering with specialization in Environmental Engineering at Civil Engg Dept SSBT's College , Jalgaon.2 Petrology, Mineralogy, Optics , paleontology, Oil and Petroleum for Master of Science at Nagpur University Nagpur.

Career profile:

1. From July 1st 1988 to November 30TH 2002 as Lecturer in Civil Engineering at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.
2. From Dec 1st 2002 to Jan 31st2007 as Senior Lecturer in Civil Engineering at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.
3. From Feb 1st 2007 to Feb 28th2010 as Lecturer in Selection Grade in Civil Engineering at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.
4. From March 1st 2010 to June 30th 2012 as Associate Professor in Civil Engineering at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.
5. From July 1st 2012 to 31/12/2021 as Professor in Civil Engineering at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.
6. From Sept 15th 2011 to March 30th 2013 as Head Of Applied Science Department at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS.

Administrative experiences:

1. Worked as Principal In-charge at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS from May 15th 1999 to July 30th 1999.
2. Holding additional charge of Principal in-charge of New polytechnic, Bambhori, Jalgaon, MS from October 28th 2005 till date.
3. Worked as Board of Studies in Civil Engineering during academic year 2008 to 2011 at North Maharashtra University, Jalgaon, MS.
4. Working as Rector for Boys' Hostel at SSBT's College of Engineering and Technology, Bambhori, Jalgaon, MS from April 2003 till date.
5. Worked as Chairman , Cultural Committee since appointment till 2011. Organized various Cultural Activities for students including Annual day every year. Looked after catering and stage arrangement aspects for each every National/Inter-national

workshop/seminar/conference/paper presentation activity etc organized in the College since last 25 years.

6. Did complete event management during the visit of President of India to the SSBT's College of Engineering and Technology, Bambhori, Jalgaon, M.S.on 13th June 2011.
7. Did complete event management during the visit of President of India to the SSBT's College of Engineering and Technology, Bambhori, Jalgaon, M.S.on 25th March2012.

I have received appreciation letter from Principal SSBTs College .

8. Working as member of Anti Ragging Committee and member of Anti Ragging squad Since 2003.
9. Worked as Staff Representative in the Local Management Committee (LMC) of the college from 2006 to 2009 and 2015.
10. Working as member Principal in the College Development Committee (CDC) of the SSBTs Arts Commerce and Science College , Bambhori, Jalgaon, MS from 01/007/2019 till date
11. Worked as an officiating principal of the institute in absence of the regular principal.
12. Worked as member of Proctorial Board since 2003.
13. Worked as faculty advisor for Civil Engineering students association.
14. Worked as an class teacher of second year civil .
15. Worked as member of time table in charge.
16. Worked as Teacher Guardian for second year students.
17. Worked as Exam Coordinator for Internal sessional exam.at Departmental level.
18. Worked for preparations of SAR reports for NACC and NBA.
19. Worked as Senior and Junior supervisor , paper setters , oral and practical exam. at University Exams ,
- 19 Worked as Member of Various committees at University level including LIC, Selection committee as a V C Nominee , subject expert , BOS
- 20 Worked as Coordinator in Yuvaranga 2015, Jointly organized by the students welfare Department, KBCNMU, Jalgaon and SSBTs College of Engineering and Technology, , Bambhori, Jalgaon at SSBT's College of Engineering and Technology, Bambhori, Jalgaon,
- 21 Worked as a Principal Incharge at SSBTs Arts Commerce and Science College , Bambhori, Jalgaon, MS from July 1 st 2019 to 31/12/2021 .

22 Working as a regular and approved principal at SSBTs Arts Commerce and Science College , Bambhori, Jalgaon, MS from 01/01/2022 till date .

Books written:

Written book titled “Elements of Civil Engineering” published by Everest Publications, Pune, MS.

I hereby declare solemnly that the information given herein is correct to the best of my knowledge and understanding.

Dr. Shivraj Laxmanrao Patil

Date: 20/01/2022

Place: Jalgaon

Research Work Published in Daily News Papers

कोळशाच्या वापरानून वाढवली जमिनीची सुपिकता

प्रतिनिधी | जळगाव

अन्वयने वरून कोळशाचा वापर घेतात. कोळशाचा वापर करून जमिनीची सुपिकता वाढवली जाऊ शकते. कोळशाचा वापर करून जमिनीची सुपिकता वाढवली जाऊ शकते. कोळशाचा वापर करून जमिनीची सुपिकता वाढवली जाऊ शकते.



विद्यार्थ्यांनी रोताम्ये असा वारसवी केला प्रयोग

सोपानवार पारिवाहक जमिनीमध्ये रोताम्ये केले जाऊ शकते. कोळशाचा वापर करून जमिनीची सुपिकता वाढवली जाऊ शकते. कोळशाचा वापर करून जमिनीची सुपिकता वाढवली जाऊ शकते.

प्लास्टिक कचऱ्याच्या पुनर्वापराने डांबरीकरण शक्य

बांभोरी अभियांत्रिकीच्या विद्यार्थ्यांचा प्रयोग ; डांबरीकरण १० टक्के प्लास्टिकचा वापराने मिळवता

प्रतिनिधी | जळगाव

भारतात दिवसेंदिवस औद्योगिकीकरण व देशाच्या विकास कामासाठी प्लास्टिकचा वापर मोठ्या प्रमाणात होत आहे. मात्र प्लास्टिक न कुजणारे असल्याने तो पर्यावरणासाठी धोकादायक आहे. त्यामुळे या प्लास्टिक कचऱ्याचा डांबरीकरणात पुनर्वापर करणे योग्य आहे.



डांबरीकरणासाठी वापरता येईल. प्लास्टिक कचऱ्याचा पुनर्वापर करून डांबरीकरण शक्य आहे. प्लास्टिक कचऱ्याचा पुनर्वापर करून डांबरीकरण शक्य आहे.

वाळू समस्येवर तोंडाचा वाळूटूयेवजी ताकाऊ काचेचा वापर करून काँक्रीटची निर्मिती

प्रतिनिधी | जळगाव

वाळू समस्येवर तोंडाचा वाळूटूयेवजी ताकाऊ काचेचा वापर करून काँक्रीटची निर्मिती शक्य आहे. वाळूटूयेवजी ताकाऊ काचेचा वापर करून काँक्रीटची निर्मिती शक्य आहे.



असे केले संशोधन :

काँक्रीट तयार करताना वाळू वापरली जाते. वाळू समस्येवर तोंडाचा वाळूटूयेवजी ताकाऊ काचेचा वापर करून काँक्रीटची निर्मिती शक्य आहे.

अत्यंत कमी खर्चात वाया जाणाऱ्या सांडपाण्याचा पुनर्वापर सहज शक्य

प्रस्तावनासाठीच्या विद्यार्थ्यांनी जवळपास शुध्दाचा वापर करून उपकरणे केले त्यावर

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संपूर्ण पुनर्वापर ७२ टक्के वाया जाऊ शकते. अत्यंत कमी खर्चात वाया जाणाऱ्या सांडपाण्याचा पुनर्वापर सहज शक्य आहे.



असे केले संशोधन :

सांडपाण्याचा पुनर्वापर सहज शक्य आहे. अत्यंत कमी खर्चात वाया जाणाऱ्या सांडपाण्याचा पुनर्वापर सहज शक्य आहे.

काँक्रीटच्या निर्मितीत सिमेंटला पर्याय म्हणून रेड मडचा वापर करणे शक्य

बांभोरी अभियांत्रिकीच्या विद्यार्थ्यांचे संशोधन ; नैसर्गिक स्रोत संवर्धनासाठी होईल मदत

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नैसर्गिक स्रोतांचा मोठ्या प्रमाणावर वापर करण्यात आहे. त्यामुळे नैसर्गिक स्रोत संपुष्टात येत आहे. त्यात काँक्रीटकरणासाठी सिमेंटचा सर्वाधिक वापर होत आहे. त्यामुळे सिमेंटला पर्याय म्हणून अल्युमिनियम कंपोझिट म्हणून निष्पन्नाचा अल्युमिनियम ऑक्साइड वापर करणे शक्य आहे. असे संशोधन बांभोरी अभियांत्रिकी महाविद्यालयातील सिव्हिल विभागाच्या विद्यार्थ्यांनी केले आहे.



२० टक्के रेड मडचा वापर

वांधकामात वापरण्यात येणाऱ्या काँक्रीटसाठी सिमेंटचा पर्याय म्हणून २० टक्केपर्यंत रेड मडचा वापर केला जाऊ शकतो. दैनंदिन जीवनात निर्माण होणाऱ्या या नैसर्गिक घटकाची सामग्रीच संशोधनामध्ये सेपुष्टात आली आणि त्याचा वापर करून काँक्रीट तयार केला. त्यात वाया जाणाऱ्या सिमेंटला पर्याय म्हणून २० टक्केपर्यंत रेड मडचा वापर केला जाऊ शकतो.

असे केले संशोधन

काँक्रीट तयार करताना त्यात रेड मडचा उपयोग करण्यासाठी विविध प्रकारच्या चाचण्या केल्या. त्यानंतर सिमेंट, रेड मड २० टक्के, खडी, वाळू यांना योग्य प्रमाणात घेऊन चाचण्या घेण्यात आल्या. त्यानंतर यशस्वी प्रयोग झाले. या प्रयोगात काँक्रीट तयार करताना सिमेंटला पर्याय म्हणून २० टक्केपर्यंत रेड मडचा वापर केला जाऊ शकतो.

