



**Shri Wardhaman Academy for Technical Education's
Gyan Ganga Institute of Technology & Sciences**

Near Bargi Hills, Tilwara Ghat Road, Jabalpur (M.P., India)

Department of Civil Engineering

Patents Published/Granted

S. No	YEAR	Name of the Investigator	Title of the Patent	Application No
1	2023	Prof. Anubhav Rai	Ultrasonic rail track Monitoring Device	388500-001
2	2023	Prof. Anubhav Rai	Estimation Of Soil Strength Using Artificial Intelligence Methods In Geotechnical Engineering	202321037972
3	2023	Prof. Anubhav Rai	Development Of Artificial Intelligence Algorithms For Real Time Speed Estimation Based On Vehicle Detection	202321030905
4	2023	Prof. Anubhav Rai	Adaptive Traffic-Management System For Smart Cities Based On Machine Learning And IOT	202321015475 A
5	2022	Prof. Anubhav Rai	IOT Enabled Health Monitoring Dervice	374116-001
6	2021	Prof. Sudepto Mukharjee Prof. Vedant Shrivastava	IOT Based Smart Water Level Monitoring System And Method Thereof	202121039056 A
7	2021	Prof. Sudepto Mukharjee	Coach Berth with Foot Rest Assembly to Climb onto the Berths	



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Research papers published in the Journals (Scopus, Web of Science, SCI, UGC Care)

S. No	Title of paper	Year of publication	Name of the author/s	Name of journal	ISSN number
1	Developing an optimized artificial neural network model based on the GWO, AGWO, and HHO algorithm for predicting shear strength of soil	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	Transportation Infrastructure Geotechnology	21967202, 21967210
2	Experimental Investigations On Flyash Based Geopolymer Concrete	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	Euro Chemical Bulletin	2063-5346346
3	Comparative Analysis of Conventional RCC Structure and Diagrid Structure of U-Shape Plan	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Journal of Innovative Research in Engineering & Management (IJREM) is a Referred, Online, Open Access, Peer Reviewed, DOI indexed and High Impact journal	2350-0557
4	Effect of Crumb Rubber by Partial Replacement on Compressive Strength and Flexural Strength of Concrete	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Journal of Innovative Research in Engineering & Management (IJREM)	2350-0557
5	To Study the Properties of Concrete Mix on Partial Replacement of Coarse Aggregate with Burnt Bricks	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Journal of Innovative Research in Engineering & Management (IJREM)	2350-0557
6	Comparative Analysis of Cantilever Retaining Wall with and without Column	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	2321-9653
7	Comparative Analysis of Cantilever Retaining Wall With And Without Column-Beam System	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 p-ISSN: 2395-0072
8	Comparative Analysis of RC Multi-Storey Building Framed Structure With and Without Considering P-Delta Effect	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET) e	2395-0056
9	Static Analysis of Asymmetric Reinforced Concrete Structure with Lead Rubber Bearing	01 Jan 2020 To 31 Dec 2020	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 p-ISSN: 2395-0072
10	Effects of Fly Ash and Other Ingredients to The Strength And Cost Of „Falgcsd“ (Flyash, Lime,Gypsum, Cement, Stone Dust) Bricks	01 Jan 2017 To 31 Dec 2017	Prof. Anubhav Rai	International Journal of Engineering and Technical Research (IJETR)	2321-0869
11	Comparison of Strength & W/C Ratio for Different aggregates for the Development of Pervious Concrete	01 Jan 2021 To 31 Dec 2021	Prof. Anubhav Rai	International Journal of Innovative Research in Technology (An International Open Access , Peer-reviewed, Refereed Journal)	2349-6002
12	Analysis of Bridge Deck Link Slabs with Ductile ECC	01 Jan 2020 To 31 Dec 2020	Prof. Anubhav Rai	International Journal of Innovative Research in Technology (An International Open Access , Peer-reviewed, Refereed Journal)	2349-6002
13	Analysis of a RCC frame Tall Structure using Staad Pro on Different Seismic Zones Considering Ground Slopes	01 Jan 2017 To 31 Dec 2017	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	2395 -0056 p-ISSN: 2395-0072

14	Effect of Partial Replacement of Sand by Iron Ore Tailings on the Compressive Strength of Concrete	01 Jan 2017 To 31 Dec 2017	Prof. Anubhav Rai	Effect of Partial Replacement of Sand by Iron Ore Tailings on the Compressive Strength of Concrete	e-ISSN: 2395-0056 2395-0072	p-ISSN:
15	Effect of Salt Water on Compressive Strength, Flexural Strength and Durability of a Concrete	01 Jan 2020 To 31 Dec 2020	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 2395-0072	p-ISSN:
16	Seismic Behavior of RC Multistory Building Frame Structure with Different Plan Configuration	01 Jan 2021 To 31 Dec 2021	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 2395-0072	p-ISSN:
17	Review on Seismic Response of Asymmetric Reinforced Concrete Structure with Lead Rubber Bearing	01 Jan 2020 To 31 Dec 2020	Prof. Anubhav Rai	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 2395-0072	p-ISSN:
18	Analysis of A Tall Structure Considering Shear Wall : A Review	01 Jan 2022 To 31 Dec 2022	Prof. Anubhav Rai	International Journal of Scientific Research in Civil Engineering	2456-6667	
19	Relative Investigation of Structure of an Intze Tank by Working Stress Method and Limit State Method utilizing IS:3370(1965) and IS: 3370(2009)	01 Jan 2019 To 31 Dec 2019	Prof. Anubhav Rai	International Journal for Innovative Research in Science & Technology	2349-6010	
20	Comparative Analysis of Bridge Deck Link Slabs Designed with Ductile Engineered Cementitious Composite	01 Jan 2020 To 31 Dec 2020	Prof. Anubhav Rai	Journal of Information and Computational Science	1548-7741	
21	Effect of iron ore tailing on the flexural strength of concrete	01 Jan 2017 To 31 Dec 2017	Prof. Anubhav Rai	International Journal for Research in Applied Science & Engineering Technology	2321-9653	
22	A Comparative Study of Static and Dynamic Analysis of an Irregular Multistory Building with Different Location of Shear Wall	01 Jan 2017 To 31 Dec 2017	Prof. Anubhav Rai	International Journal for Research in Applied Sciences and Engineering	2321-9653	
23	Effect of Iron Ore Mine Tailing And Ground Granulated Blast Furnace Slag on Compressive and Flexural Strength of Concrete	01 Jan 2018 To 31 Dec 2018	Prof. Anubhav Rai	International Journal of Emerging Technologies in Engineering Research (IJETER)	2454-6410.	
24	Effect of Salt Water on Compressive Strength, Flexural Strength & Durability of Concrete	01 Jan 2019 To 31 Dec 2019	Prof. Anubhav Rai	International Journal of Emerging Technologies in Engineering Research (IJETER)	2454-6410	
25	"STUDY ON PARTIAL REPLACEMENT OF CEMENT WITH IRON ORE MINE TAILING AND GROUND GRANULATED BLAST FURNACE SLAG"	01 Jan 2018 To 31 Dec 2018	Prof. Anubhav Rai	International Journal of Advance Engineering and Research Development	e-ISSN (O): 2348-4470 p-ISSN (P): 2348-6406	
26	An In-Depth Comparative Analysis Of Structural Design Methodologies For The Sewage Treatment Plant At Jabalpur By Western Central Railway: A Study Of Wsm And Lsm Approaches	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)	2582-5208	
27	Comparative Analysis Between Plain Cement Concrete And Glass Fibre Used Concrete	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Journal for Science and Advance Research In Technology (INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL)	2395-1052	
28	INVESTIGATING THE IMPACT OF PARTIAL CEMENT REPLACEMENT WITH WASTE FROM AAC AND CLC BLOCK PRODUCTION ON CEMENT MORTAR	01 Jan 2023 To 31 Dec 2023	Prof. Anubhav Rai	International Research Journal of Modernization in Engineering Technology and Science (Peer-Reviewed, Open Access, Fully Refereed International Journal)	2582-5208	
29	Forensic Investigation of Concrete Structures	2023	Prof. Anubhav Rai	International Journal for Science and Advance Research in Technology	ISSN: 2395-1052	
30	Using an Artificial Neural Network Model to Predict Groundwater Quality in the Southern Region of Jabalpur City	01 Jan 2023 To 31 Dec 2023	Niranjan M. Damle, Sudepto Mukherjee, Sourabh Sahu & Arun Kumar Sharma	Water, Air, & Soil Pollution	1573-2932	
31	ASSESSMENT OF WATER QUALITY INDEX FOR THE GROUNDWATER IN AND AROUND JABALPUR CITY, MADHYA PRADESH, INDIA	May-20	Dr. Niranjan M. Damle Prof. Sudepto Mukharjee	INTERNATIONAL JOURNAL OF INNOVATION IN ENGINEERING RESEARCH & MANAGEMENT	ISSN: 2348-4918	
32	SPATIAL ANALYSIS OF GROUNDWATER QUALITY OF JABALPUR CITY USING GIS TECHNIQUES	Jun-20	Dr. Niranjan M. Damle	INTERNATIONAL JOURNAL OF INNOVATION IN ENGINEERING RESEARCH & MANAGEMENT	ISSN: 2348-4918	
33	IoT based Device for Water Level Monitoring of Groundwater Supply Systems	2021	Dr. Niranjan M. Damle	Design Engineering	ISSN: 0011-9342	

34	AQUIFER CHARACTERISTICS OF A DIMINISHING WETLAND: A CASE STUDY OF SOUTHERN BANK OF NARMADA RIVER, JABALPUR DISTRICT, MADHYA PRADESH	2018	Prof. Sudepto Mukharjee ,Dr. Niranjan M. Damle	INTERNATIONAL JOURNAL OF INNOVATION IN ENGINEERING RESEARCH & MANAGEMENT	ISSN: 2348-4918
35	Morphometric Analysis Based Prioritisation of Belkund Sub-Watershed, Jabalpur District, M.P., India	2016	Dr. Niranjan M. Damle	International Advanced Research Journal in Science, Engineering and Technology SITES	2393-8021

36	ANALYSIS OF CONCRETE USING FOAMING AGENT AS ADDITIVES	2023	Prof. Satyendra Dubey	International Journal of Research and Analytical Reviews (IJRAR).	E-ISSN 2348-1269, P- ISSN 2349-5138
37	STUDY OF LIGHT WEIGHTCONCRETE WITH ALUMINIUM POWDER WITH GEOPOLYMER	2023	Prof. Satyendra Dubey	International Journal for Research Trends and Innovation -IJRTI.	(ISSN: 2456-3315).
38	Analysis of Irregular Shaped Tall Structure Considering Shear Wall at Different Positions using Analysis Tool Staad.Pro	2022	Prof. Satyendra Dubey	International Journal of Scientific Research in Civil Engineering	ISSN : 2456-6667
39	STUDY THE EFFECT OF DIFFERENT FIBRE BASED ON THE CHARACTERISTICS OF ECC AT A VARIOUS PERCENTAGE OF FLY ASH	2022	Prof. Satyendra Dubey	Journal of Emerging Technologies and Innovative Research	ISSN: 2349-5162
40	"TO EVALUATE THE INFLUENCE OF DIFFERENT FIBERS BASED ON ECC FEATURES"	2022	Prof. Satyendra Dubey	International Research Journal Of Modernization in Engineering Technology and Science	e-ISSN: 2582-5208
41	A Comparative Analysis of OMRF And SMRF Structures In Different Seismic Zones	2022	Prof. Satyendra Dubey	International Journal for Science and Advance Research In Technology	ISSN : 2395-1052
42	study of free vibration analysis of rectangular laminated plate with circular cut-out	2019	Prof. Satyendra Dubey	international journal for science and advance research in technology	ISSN : 2395-1052
43	Effect of Hard & Soft Soils and Seismic Zones on Shifting Height of SMRF Framed Structures	2020	Prof. Satyendra Dubey	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY	ISSN: 2349-6002
44	seismic performance of confined structure with hard & soft soils condition	2020	Prof. Satyendra Dubey	international journal for science and advance research in technology	ISSN : 2395-1052
45	ANALYSIS ON STRENGTH PARAMETER OF REINFORCED CONCRETE BY USING MINERAL ADMIXTURE AND HYBRID FIBER	2019	Prof. Satyendra Dubey	international journal for science and advance research in technology	ISSN : 2395-1052
46	Performance Evaluation on Hybrid Fiber Reinforced Concrete with Various Percentage of Mineral Admixture	2019	Prof. Satyendra Dubey	INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY	ISSN: 2349-6002
47	IMPROVED STRENGTH OF CONCRETE BY USING STEEL SLAG AS COARSE AGGREGATE	2021	Prof. Satyendra Dubey	international journal for science and advance research in technology	ISSN : 2395-1052
48	Experimental Investigation on Concrete Using Steel Slag as Fine Aggregate	2021	Prof. Satyendra Dubey	International Journal of Science Technology & Engineering	ISSN : 2349-784X
49	To Study the Effects of Shear walls in Multistory Building by Using STAAD PRO	2020	Prof. Satyendra Dubey	INTERNATIONAL JOURNAL FOR RESEARCH PUBLICATION AND SEMINAR	ISSN : 2278-6848

50	Study of Diagonally Extended Stirrups in	01 Jan 2017 To 31 Dec 2017	Prof. Siddhartha Deb	Imperial Journal of Interdisciplinary Research	2454-1362
51	Influence of Square and Triangular Shape	01 Jan 2017 To 31 Dec 2017	Prof. Siddhartha Deb	Imperial Journal of Interdisciplinary Research	2454-1362
52	Seismic Analysis of RCC Building without and with Shear walls	01 Jan 2022 To 31 Dec 2022	Prof. Siddhartha Deb	International Research Journal of Engineering and Technology	23950056
53	Seismic Behaviour of Steel Frame Structure without and with Bracing	01 Jan 2022 To 31 Dec 2022	Prof. Siddhartha Deb	International Research Journal of Engineering and Technology	23950056
54	ANALYSIS OF CONCRETE USING FOAMING AGENT AS ADDITIVES	2023	Prof.Vedant Shrivastava	International Journal of Research and Analytical Reviews (IJRAR).	E-ISSN 2348-1269, P- ISSN 2349-5138

55	STUDY OF LIGHT WEIGHT CONCRETE WITH ALUMINIUM POWDER WITH GEOPOLYMER	2023	Prof. Vedant Shrivastava	International Journal for Research Trends and Innovation -IJRTI.	2456-3315
56	Analysis of Irregular Shaped Tall Structure Considering Shear Wall at Different Positions using Analysis Tool Staad.Pro	2022	Prof. Vedant Shrivastava	International Journal of Scientific Research in Civil Engineering	2456-6667
57	Analysis of A Tall Structure Considering Shear Wall : A Review	01 Jan 2022 To 31 Dec 2022	Prof. Vedant Shrivastava	International Journal of Scientific Research in Civil Engineering	2456-6667
58	Seismic Behaviour of Steel Frame Structure without and with Bracing	01 Jan 2022 To 31 Dec 2022	Prof. Vedant Shrivastava	International Research Journal of Engineering and Technology	23950056
59	Forensic Investigation of Concrete Structures	2023	Prof. Karishma Tiwari	International Conference on ICR-SET-2023	ISBN: 978-93-91267-49-0
60	Forensic Investigation of Concrete Structures	2023	Prof. Karishma Tiwari	International Journal for Science and Advance Research in Technology	ISSN: 2395-1052

Conferences/seminars/workshops/webinars/FDPs organised

S. No	YEAR	DEPT	Name of the event	Title of the event
1	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 1/3
2	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 2/3
3	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 3/3
4	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 1/3
5	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 2/3
6	01 Jul 20 To 30 Jun 21	CE	STTP	SIX Days STTP on Geotechnical Exploration and Investigation Techniques Series 3/3
7	01 Jul 20 To 30 Jun 21	CE	SEMINAR	Modern Trends and Innovation in Civil Engineering