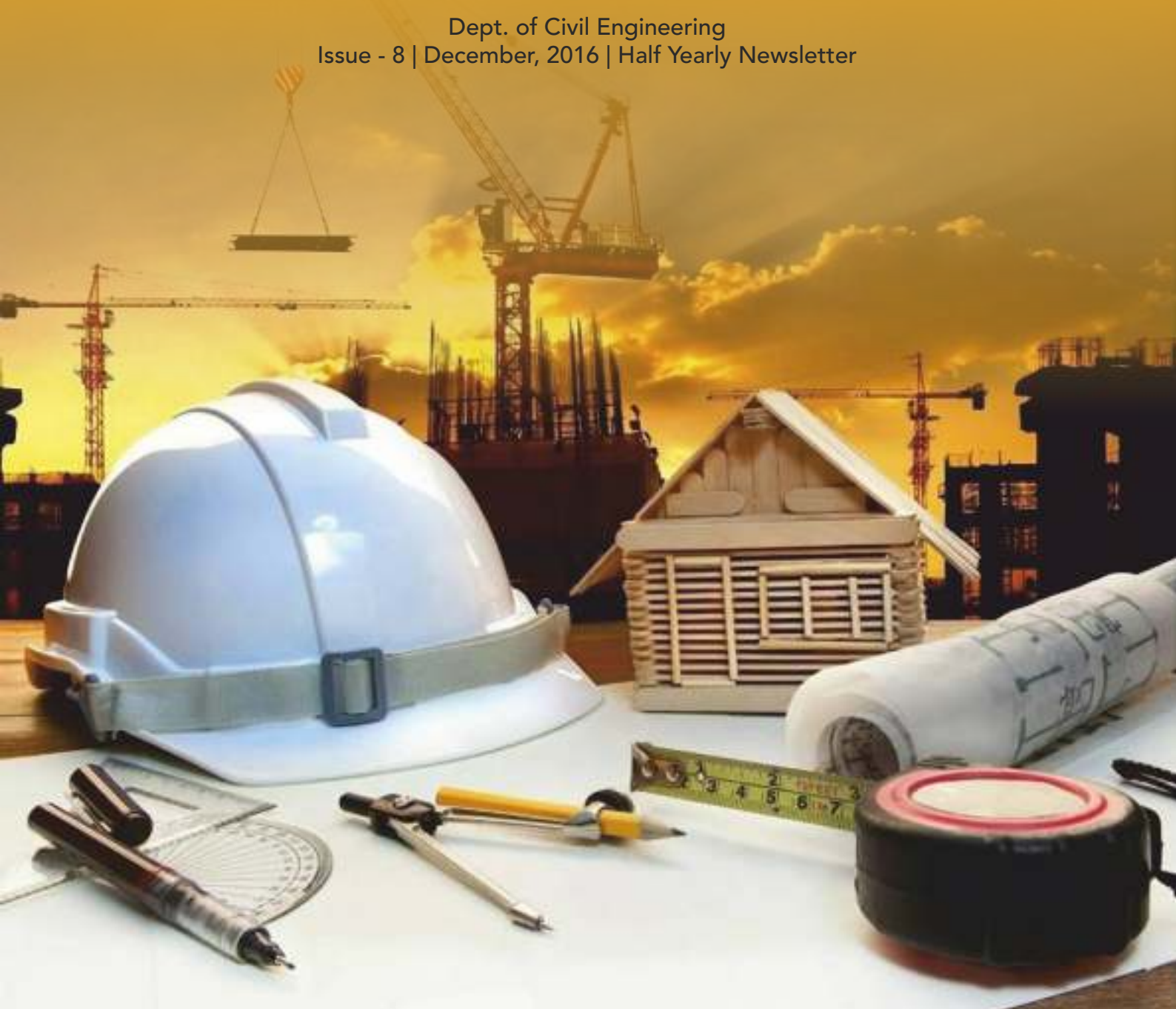




JODHPUR INSTITUTE OF  
ENGINEERING AND TECHNOLOGY

# CIVILISE

Dept. of Civil Engineering  
Issue - 8 | December, 2016 | Half Yearly Newsletter



**JIET**

Group of Institutions

[www.jietjodhpur.ac.in](http://www.jietjodhpur.ac.in)

# VISION

To become a globally recognized institution in technical and professional education, and to provide career and research oriented, value based education to serve the society.

# MISSION

**To develop** a holistic educational approach that blends fundamentals and hands-on experience.

**To build** a diverse academic environment that fosters problem solving ability, team spirit, leadership, and commitment towards quality.

**To promote** exchange of ideas, innovation, research and entrepreneurial skills so as to face global challenges.

**To inculcate** ethical values and sense of responsibility towards society.

## PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

### PEO1 PREPARATION

To impart fundamental knowledge and understanding of science and mathematics to develop a strong foundation to nurture students for a progressive career as an engineer, an entrepreneur and a researcher.

### PEO2 BREADTH

To provide comprehensive knowledge of structure, geotechnical, environment, geo-informatics, and water resource engineering to produce engineers of global competence.

### PEO3 CORE COMPETENCE

To develop technical, analytical, experimental and research oriented skills in students to enable them to find solution of real time problems and help in development of new technologies.

### PEO4 PROFESSIONALISM

To equip students with communication, interpersonal and leadership skills to enable them to work in interdisciplinary teamwork and borne professional responsibilities.

### PEO5 LIFE LONG LEARNING

To provide proper exposure to students about contemporary technologies, latest software tools and Industrial requirements to enable them for lifelong learning and choose their field of interest.



Mission & Vision

# PROGRAMME OUTCOMES

- PO1 Fundamental Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and engineering specialization to the solution of civil engineering problems.
- PO2 Problem Analysis :** Identify, formulate, review research literature and analyse complex civil engineering problems reaching substantiate conclusions using principles of mathematics and engineering.
- PO3 Design/Development of solutions :** Design Solutions for complex civil engineering problems that meet the specified needs with appropriate consideration for the public health, safety and the cultural societal and environmental considerations.
- PO4 Conduct Investigations of Complex Problems :** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
- PO5 Modern Tool Usage :** Learn latest techniques, resources and engineering tools, modelling and simulation of complex engineering activities with an understanding of limitations.
- PO6 Environment and Sustainability :** Understand the social and environmental effect of civil engineering projects and provide solutions for sustainable development.
- PO7 The engineer and society :** Apply reasoning learned by the contextual knowledge to assess socio-environmental, legal and cultural issues and provide proper solutions.
- PO8 Ethics :** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and Team :** Function effectively as an individual and as a member or leader in diverse teams and multidisciplinary fields.
- PO10 Project Management and finance :** Demonstrate knowledge and understanding of engineering and management principles and apply them as individual or as a member or a leader of team on engineering projects.
- PO11 Communication:** Communicate effectively, both verbally and in writing on engineering activities with engineering community and with society at large.
- PO12 Life Long Learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

## PROGRAM SPECIFIC OUTCOMES

- (1) To impart basic knowledge of civil engineering materials, geo-informatics, estimation of various quantities and building technology.
- (2) To build fundamental concepts of structural engineering to enable students to analyse and design complex civil engineering structures using latest software tools and industry practices.
- (3) To identify public health engineering and environmental related issues and provide sustainable solutions as a responsible civil engineer.

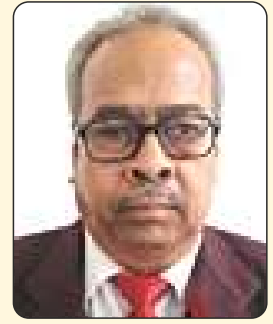




# THE HEAD SPEAKS

Dear Students,

“Civil Engineering is a professional engineering discipline that deals with the design, construction and maintenance of physically built works like roads, bridges, canals, dams and buildings. Construction industries are currently growing with latest technologies and now there is a huge demand for civil engineers for infrastructural development along with skills. Hence, our department aims to mould the students into excellent engineering professionals by exposing them to different aspects of Civil Engineering such as hydraulics, environmental engineering, structures, water resources engineering and soil engineering.



**Prof. (Dr.) Arvind Rai**  
HOD, Civil Engineering  
JIETCOED

# EDITOR'S PEN



**Mr. Missa Ram**  
Asst. Prof. Civil Engineering, JIET

***'Improvement makes strait roads: but the crooked roads without Improvement are roads of Genius.'***

– William Blake (English poet)

Engineering refers to the practice of organizing the design and construction of any artifice which transforms the physical world around us to meet some recognized need. Civil engineering touches us throughout our day.

Civil Engineers convert complexity into reality. Four Year B.Tech program of the Department of Civil Engineering at JIET is dedicated to delivering technically proficient and ethically responsible engineers to society.

We welcome you to the eight edition of Bi-annual newsletter Civilise. It encompasses the departmental activities of the past six months. We earnestly wish that this piece of info-graphy makes for a delightful read.



MESSAGE



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# GUEST LECTURES / EXPERT LECTURES (EXPERTS FROM OUTSIDE AND WITHIN JGI)

Topics	Date	Experts	Sections
Teaching Methodology (Guest lecture)	08/07/2016	Prof. (Dr.) Rajendra Karwa (Campus Director (JIET, Jodhpur)	Faculty Development Program
Sources of Water	09/7/2016	Mr. N. C. Mathur (Executive Engineer (PHED, Jodhpur)) <b>(Expert from outside JGI)</b>	Faculty Development Program
Professional Ethics (Guest Lecture)	11/07/2016	Prof. O. P. Vyas (Dean engineering)	Faculty Development Program
Surveying	12/07/2016	Prof. (Dr.) Arvind Rai (HOD)	Faculty Development Program
NBA Accreditation (Guest Lecture)	14/07/2016	Prof. M. R. Baid (H. O. D. Mechanical Department)	Faculty Development Program
Structural Forms and Retrofitting of Bridges	16/7/2016	Prof. N. M. Bhandari Visiting Prof. (IIT, Jodhpur) and Prof.(Rtd.) (Civil Engg. IIT Roorkee) <b>(Expert from outside JGI)</b>	Faculty Development Program
Statistical Determinacy	17/08/2016	Mr. Kamlesh Parihar (Associate Prof & Dy. HOD.)	I & J, (III Year(5 <sup>th</sup> Sem))
Kinematic Determinacy	25/08/2016	Mr. Kamlesh Parihar (Associate Prof & Dy. HOD.)	I & J, (III Year( 5 <sup>th</sup> Sem))
Environmental Engineering II (Guest lecture)	30/08/2016	Mr. Shekhar Harsh (Executive Engineer at PHED Jodhpur) <b>(Expert from outside JGI)</b>	I & J, (III Year( 5 <sup>th</sup> Sem))
Effective Stress (Geotech)	26/09/2016	Mr. AbhishekArya (Asst. prof.)	(I & J, III Year( 5 <sup>th</sup> Sem))
Water Resource Engineering	26/09/2016	Mr. R.K. Garg (Chief Engineer at irrigation Department Jodhpur) <b>(Expert from outside JGI)</b>	I & J, (IV Year( 7 <sup>th</sup> Sem))
Slope Deflection method (Theory of Structure)	08/10/2016	Mr. AbhishekArya (Asst. prof.)	I & J, (III Year( 5 <sup>th</sup> Sem))
Orifice and Mouthpiece (Fluid Mechanics)	14/10/2016	Mr. MukeshPatidar (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))
Grouting (Construction Technology)	15/10/2016	Mrs. KiranBhoot (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))
Notch and Weir (Fluid Mechanics)	16/10/2016	Mr. MukeshPatidar (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))
Plastic Analysis (Steel Structure I)	21/10/2016	Mr. AbhishekArya (Asst. prof.)	I & J, (IV Year( 7 <sup>th</sup> Sem))
Popular Technologies with Special reference to Energy Recovery from Solid Waste refuse derived Fuel and Methods of Waste Disposal (Guest lecture)	24/10/2016	Dr. Sushma Dave (Prof. at Chemistry Department, JIET Jodhpur)	(I & J, III Year, 5 <sup>th</sup> Sem)
Traffic Signal Design (Advance Transportation Engg.)	25/10/2016	Mr. Dungar Ram Choudhary (Asst. prof.)	I & J, (IV Year( 7 <sup>th</sup> Sem))
Advance Construction Techniques (Construction Technology)	10/11/2016	Mr. KamleshParihar (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))
Dip and Strike (Engineering Geology)	17/11/2016	Mr. AbhishekArya (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))
Remote Sensing and GIS (Engineering Geology)	19/11/2016	Mr. AbhishekArya (Asst. prof.)	I & J, (II Year( 3 <sup>rd</sup> Sem))

## TEACHERS' DAY CELEBRATION

On 5 September 2016, Teachers' Day was celebrated in Civil Department. Teachers' Day is that momentous event where students engage to shower their knowledge, idea and have an interaction with the teachers for their motivation and guideline which helps the students to build their future in a right way.

Teachers teach students very carefully and sincerely just like their own children. The head of department gave a motivational talk on importance of teaching and about the vast scope of Civil Engineering in modern time. Students organized various activities including singing, dancing etc.

# OPEN HOUSE 2016

Open House was organized on 15 September, 2016. In open house students displayed chart, non-working models, working model and posters to show case their talent. The winners were given prizes.

The results of Open House are as follows:-

## CHART

Position	Name of Project	Name of student	SEM
1	Manufacturing of Cement by Wet Process	AnkitaMathur	5
		DakashataGarg	5
2	Curve tracing	Mayankdhanadia	5
		Kapil solanki(op)	5
		Chiragkumar	5
3	Masonry and brick bond	Naveen Sharma	3
		NalavDutt	3
		PrakashDevasi	3
		NitinParik	3

## WORKING MODEL

Position	Name of Project	Name of student	SEM
1	Water Resources Management	ParulMathur	3
		Monika sing	3
		NeetuKurdiya	3
		Tarun Choudhary	3
2	Hydraulic Apartment	Paramveer Singh	3
		NamitMathur	3
		Mukesh	3
		Nalav Sharma	3
3	Hydro Electric Power Plant	Anurag Singh Gehlot	3
		Anand Sharma	3
		Anil Sharma	3
		Amrishsingh	3

## NON - WORKING MODEL

Position	Name of Project	Name of student	SEM
1	Solid Waste Management	Rashmi Jain	5
		NileshMadhav	5
		Rajeev Ranjan	5
		Praveen Kumar	5
2	Metro Train	HemlataSaini	3
		Anisha Gandhi	3
		BhawnaSongara	3
		GauravGarg	3
3	Intelligent Transportation System	Virendra Singh	5
		MohitPahuwani	5
		ShahidMohammad	5
		PrakashSoni	5





# INDUSTRIAL VISIT

Industrial Visit is a platform which co-relates the Theoretical and Practical knowledge. Site visit was organized for all faculty members of Civil Engineering department to enhance their practical knowledge and provide platform for the students to interact with professionals.

Date	Site Visited	Guide
12 <sup>th</sup> July 2016	Surpura Dam, Surpura Village and Kaylanawater treatment Plant, Near Kaylana Lake, Jodhpur	Mr. Ajay Kumar Chhangani (Executive Engineer PHED Jodhpur)
15 <sup>th</sup> July 2016	Pumping Station No. 8 Tinwari, jodhpur.	Mr. N.C. Rai (assistant Engineer PHED Jodhpur)

## FACULTY ACHIEVEMENTS

- Mr. Ankit Laddha's (Asst. Prof.) paper titled, "Evaluation of Fine Sand through Soil Stabilization with Square Piece of Waste Plastic as Admixture for Design of Flexible Pavement in Construction of Roads" is published in the "American Journal of Engineering Research (AJER)."
- Mr. Ankit Laddha (Asst. Prof.) presented a paper on 'Stabilization of Fine Sand through Waste Cement Bags Strip as Admixture for Construction of Embankments for Roads' in "Recent Advances in Environmental Science and Engineering Technology (RAESET-2016)" organized by JIET, Jodhpur.
- Mr. Mukesh Patidar (Asst. Prof.), Mr. Abhishek Arya (Asst. Prof.) and Mr. Lovelesh Dave (Asst. Prof.) present a paper on 'Disinfection of Water supply' in "Recent Advances in Environmental Science and Engineering Technology (RAESET-2016)" at JIET Jodhpur.
- Mr. Multan Ram (Asst. Prof.) present a paper on 'Study on Reducing the Pollution and Water Wastage by using Bacterial Concrete' in "Recent Advances in Environmental Sciences and Engineering Technology (RAESET-2016)" at JIET Jodhpur.



# ACADEMIC RESULTS

## VI Sem (3rd Year)



Chandraveer Singh  
84.5%



Shubham Soni  
83.6%



Geetika Chouhan  
82.3%



## IV SEM (3rd Year)



Shahid Mohammad  
83.8%



Mayank Tater  
82.0%



Manish Choudhary  
80.3%

# CAMPUS PLACEMENTS

S.No.	Company Name	Names of the Placed students
1	Infosys	1. Mahaveer Parihar 2. Anshu Sharma 3. GeetikaChouhan 4. Rahul Kumar
2	Keen and Core private limited	1. Abhishek Kumar 2. Bharat Singh Rajpurohit
3	Universal Hunt	1. Jatin Arora

# INTERNSHIP COMPANIES

Name of Company	Domain	Location	Branch
ACC LIMITED	CEMENT	Mumbai	CE
DELHI METRO RAIL CORPORATION (DMRC)	RAILWAY	NEW DELHI	CE
BARC - Bhabha Atomic Research Centre	research	Mumbai	CE
Indian Institute of Science ( IISC)	RESEARCH WORK	Bengaluru	CE
Indian Institute of Technology (IIT)	RESEARCH WORK		CE
Tata Institute of Fundamental Research (TIFR)	RESEARCH WORK	Mumbai, Hyderabad	CE
INDIAN RAILWAYS	SIGNALLING & TELECOMMUNICATION		CE
JAIPUR METRO RAIL CORPORATION LTD.	SIGNALLING & TELECOMMUNICATION	JAIPUR	CE



- Q1. Wrought iron contains carbon upto:-  
 (A) 0.25%  
 (B) 1%  
 (C) 1.5%  
 (D) 2%
- Q2. In the cement the compound quickest to react with water, is  
 (A) Tricalcium aluminate  
 (B) Tetra-calcium alumino-ferrite  
 (C) Tricalcium silicate  
 (D) Dicalcium silicate
- Q3. A good building stone should not absorb water more than  
 (A) 5% (B) 10 % (C) 15% (D) 20%
- Q4. Sand Stone is  
 (A) Sedimentary rock  
 (B) Metamorphic rock  
 (C) Igneous rock  
 (D) Volcanic rock
- Q5. Specific gravity for most of the building stone lies between  
 (A) 1.5–2.0 (B) 2–2.5 (C) 2.5–3.0 (D) 3.0–3.5
- Q6. An ideal vertical curve to join two gradients, is  
 (A) Circular  
 (B) Parabolic  
 (C) Elliptical  
 (D) Hyperbolic
- Q7. Pascal – second is the unit of  
 (A) Pressure (B) Kinematic viscosity (C) Dynamic viscosity (D) Surface tension
- Q8. What is ideal fluid?
- Q9. Equation of continuity is based on principle of conservation of  
 (A) Mass (B) Energy (C) Momentum (D) Non
- Q10. What is relation between duty and delta?

**Answers:**

1. A  
 2. A  
 3. A  
 4. A  
 5. C  
 6. B  
 7. C  
 8. Incompressible  
 and non-viscous  
 A 8.64B / D

# PLASTIC ROAD: IMPROVING THE DURABILITY AND LIFESPAN OF OUR ROADS

Plastic is one of the most commonly recycled products, with plastic materials often being recycled into bottles, bags, toys, containers, and much more.

Jambulingam Street, Chennai is a local legend. Jambulingam Street was one of India's first plastic roads. The environmentally conscious approach to road construction was developed in India around 15 years ago in response to the growing problem of plastic litter. As time wore on, polymer roads proved to be surprisingly durable, winning support among scientists and policymakers in India as well as neighboring countries like Bhutan.

"The plastic tar roads have not developed any potholes, rutting, raveling or edge flaw, even though these roads are more than four years of age," observed an early performance report by India's Central Pollution Control Board. Today, there are more than 21,000 miles of plastic road in India, and roughly half are in the southern state of Tamil Nadu. Most are rural roads, but a small number have also been built in cities such as Chennai and Mumbai.

## The following types of waste plastic can be used in the construction of rural roads:

- Films ( Carry Bags, Cups) thickness up to 60micron (PE, PP and PS)
- Hard foams (PS) any thickness
- Soft Foams (PE and PP) any thickness.
- Laminated Plastics thickness up to 60 micron (Aluminum coated also) packing materials used for biscuits, chocolates, etc.,
- Poly Vinyl Chloride (PVC) sheets or Flux sheets should not be used in any case.

## Characteristics of the process:

- Easy process without any new machinery
- Simple process without any industry involvement In situ process
- Use of lesser % of bitumen and thus savings on bitumen resource
- Use of plastics waste for a safe and eco-friendly process
- Both Mini Hot Mix Plant and Central Mixing Plant can be used
- Only aggregate is polymer coated and bitumen is not modified
- Use of 60/70 and 80/90 bitumen is possible
- No evolution of any toxic gases like dioxin
- Fly ash can also be used to give a better performance

## Advantages of Plastic Tar Road :

- Strength of the road increased (Increased Marshall Stability Value)
- Better resistance to water and water stagnation
- No stripping and have no potholes.
- Increased binding and better bonding of the mix.
- Increased load withstanding property( Withstanding increased load transport)
- Overall consumption of bitumen decreases.
- Reduction in pores in aggregate and hence less rutting and raveling.
- Better soundness property.
- Maintenance cost of the road is almost nil.
- The Road life period is substantially increased.
- No leaching of plastics.
- No effect of radiation like UV.





Work

Team



### **PATRON**

Prof. (Dr.) Rajendra Karwa  
Campus Director - JIET



### **CHIEF EDITOR**

Dr. Ankita Mehta  
Associate Prof. (English)  
Member - Personality &  
Skills Development (PSD), JGI



### **FACULTY CO-ORDINATOR**

Mr. Missa Ram Choudhary  
(Dept. of CIVIL)



### **JAS MEMBER**

Er. Preeti Kumari



### **DESIGN & LAYOUT**

Mr. Anil Chandora (Admin)



**JIET**  
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## **JIET GROUP OF INSTITUTIONS**

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