



Koneru Lakshmaiah Education Foundation

(Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

❖ Recognised as Category 1 University by UGC ❖ Approved by AICTE ❖ ISO 21001:2018 Certified
Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

Phone No. +91 8645 - 350 200; www.kluniversity.in

Admin Off: 29-36-38, Museum Road, Governorpet, Vijayawada - 520 002. Ph: +91 - 866 - 3500122, 2577715, 2576129

Department of Mechanical Engineering

A.Y 2025-2026, Odd Semester

Alumni Guest Lecture Report

In view of alumni activities, Department of Mechanical Engineering conducted an Alumni Guest Lecture with **Mr. Y. Gangadhar (93ME232) of 1993-97 Batch on 31-10-2025**. He gave continuous lecture from 04:00 P.M to 05:00 P.M on the topic **“Challenges faced in maintenance of public transport vehicles (Buses)”**. In on-line mode, he given presentation in Webex platform in which 42 participants (40 students and 02 faculty) of ME department were participated in blended mode in room M126.

Webex Link:

<https://kluniversity.webex.com/kluniversity/j.php?MTID=m7fe88e2095c341c6568e161ab0c93745>

During his interactive lecture, he discussed on:

A guest lecture on “Challenges Faced in Maintenance of Public Transport Vehicles (Buses)” was organized for B.Tech Mechanical Engineering students to provide industrial exposure and practical insights into vehicle maintenance operations. The expert resource person Mr. Y. Gangadhar garu elaborated on the common challenges faced in maintaining public transport buses, including issues in engine performance, brake systems, suspension, electrical faults, and wear of critical components due to continuous operation. A key highlight of the session was the discussion on the BS6 emission standards and the incorporation of advanced sensors for efficient monitoring and control. The speaker explained the role of oxygen sensors, NOx sensors, differential pressure sensors, temperature sensors, and crankshaft position sensors in achieving better fuel efficiency, reduced emissions, and predictive maintenance. Students learned how real-time sensor data helps detect faults early, improving the reliability and safety of buses. The lecture also emphasized the importance of using diagnostic tools and data-driven maintenance strategies in modern transport systems. Overall, the session effectively linked classroom concepts with real-world vehicle maintenance technologies and encouraged students to explore innovations in intelligent and sustainable transport maintenance practices.



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Some of the Screen shots / Geo tagged pictures of event attached here

Alumni Guest Lecture on "Challenges faced in maintenance of Public Transport Vehicles (Buses)"

Meeting Info

05:01

Participants (40)

Y. Gangadhar • Unverified

Unmute Stop video Share Record Raise

16:05 31-10-2025

Alumni Guest Lecture on "Challenges faced in maintenance of Public Transport Vehicles (Buses)"

Meeting Info

16:09

Participants (41)

Viewing Y.Gangadhar's shared content

100%

Challenges faced in maintenance of Public Transport Vehicles (Buses)

Y.Gangadhar
DyCM IT, APPTD
(Alumni of KLU)

Unmute Stop video Share Record Raise

16:16 31-10-2025



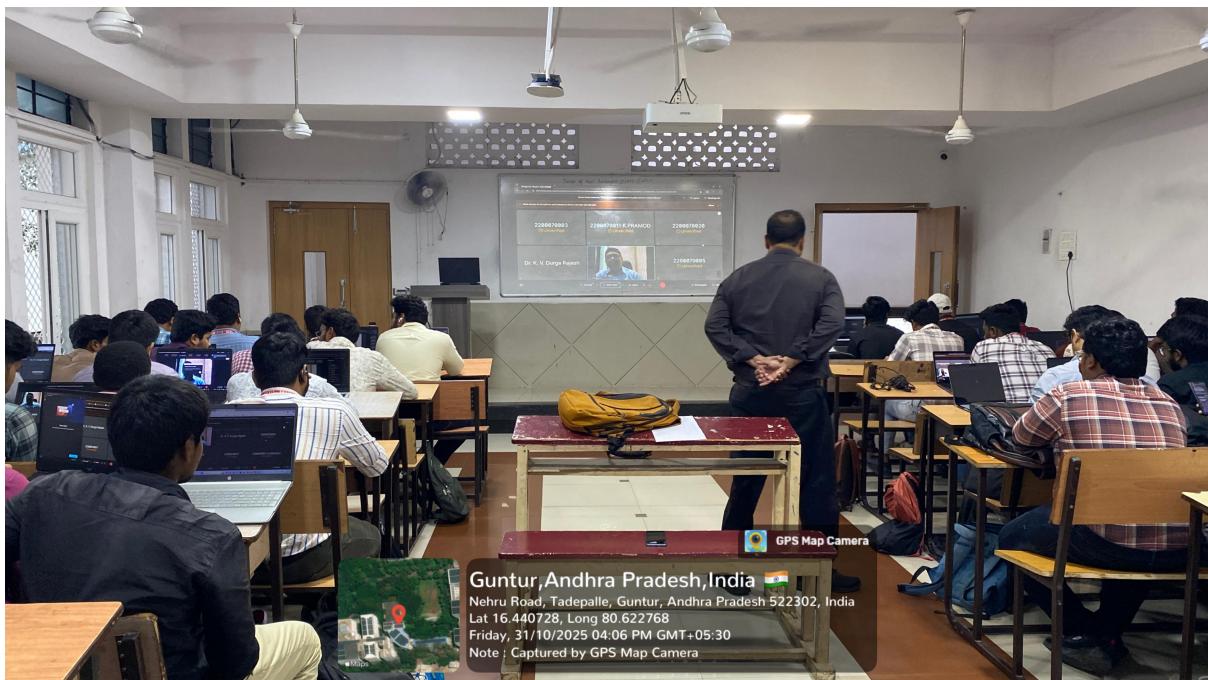
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Alumni Guest Lecture on "Challenges faced in maintenance of BS6 Buses" Meeting Info

25:52 Layout

Participants (42)

Participants (42)

Dr. K. V. Durga Rajesh (Unverified)

2200079004 (Unverified)

Y.Gangadhar (Unverified)

Viewing Y.Gangadhar's shared content

100% +

Key Sensors in BS6 Buses

1. **NOx Sensors:** Measure nitrogen oxide levels in the exhaust. These are critical for controlling emissions via Selective Catalytic Reduction (SCR) systems using urea (AdBlue).

2. **Oxygen Sensors (Lambda Sensors):** Monitor oxygen levels in the exhaust gases to optimize air-fuel mixture and ensure complete combustion.

3. **Temperature Sensors:** Installed at various points in the exhaust system (e.g., before and after the Diesel Oxidation Catalyst and Diesel Particulate Filter) to monitor thermal conditions and ensure proper functioning of emission control devices.

4. **Pressure Sensors:** Used to detect differential pressure across the Diesel Particulate Filter (DPF), helping determine soot load and triggering regeneration cycles.

5. **Urea Quality and Level Sensors:** Monitor the concentration and quantity of urea in the tank to ensure effective NOx reduction.

6. **Exhaust Gas Recirculation (EGR) Sensors:** Track flow and temperature of recirculated exhaust gases to reduce NOx formation during combustion.

7. **Engine Control Unit (ECU) Sensors:** Include crankshaft position, camshaft position, and manifold absolute pressure sensors to manage engine timing and fuel injection.

Unmute Start video Share Record Raise ... Mute all Unmute all

ENG IN 16:25 31-10-2025



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Alumni Guest Lecture on "Challenges faced in maintenance of BS6 Bus Emission System" Meeting Info

30:40 Layout

Participants (43)

Participants (43)

Dr. K. V. Durga Rajesh Host, me

Y.Gangadhar Presenter * Unverified

2200079005 Unverified

2200070011 K.PRAMOD Unverified

Y.Gangadhar

Viewing Y.Gangadhar's shared content 100% +

Sensor Layout in a BS6 Bus Emission System

- 1. Engine Block**
 - Crankshaft & Camshaft Position Sensors:** Monitor engine timing.
 - Manifold Absolute Pressure (MAP) Sensor:** Measures air pressure in the intake manifold.
 - Coolant Temperature Sensor:** Tracks engine temperature.
- 2. Air Intake System**
 - Mass Air Flow (MAF) Sensor:** Measures the amount of air entering the engine.
- 3. Exhaust System**
 - Exhaust Gas Recirculation (EGR) Sensor:** Monitors flow and temperature of recirculated exhaust gases.
 - Oxygen (Lambda) Sensor:** Located before and after the catalytic converter to monitor oxygen levels.
 - NOx Sensor:** Positioned after the SCR unit to measure nitrogen oxide levels.
 - Temperature Sensors:** Placed before and after the Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF), and SCR to monitor heat levels.
 - Differential Pressure Sensor:** Measures pressure drop across the DPF to detect soot buildup.
- 4. SCR System (Selective Catalytic Reduction)**
 - Urea Quality Sensor:** Ensures correct urea concentration.
 - Urea Level Sensor:** Monitors AdBlue tank level.
 - Urea Dosing Control:** Regulates injection of urea into the exhaust stream.
- 5. Electronic Control Unit (ECU)**
 - Central hub that receives data from all sensors and adjusts fuel injection, air intake, and emission control systems accordingly.

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9+ 16:30 ENG IN 31-10-2025



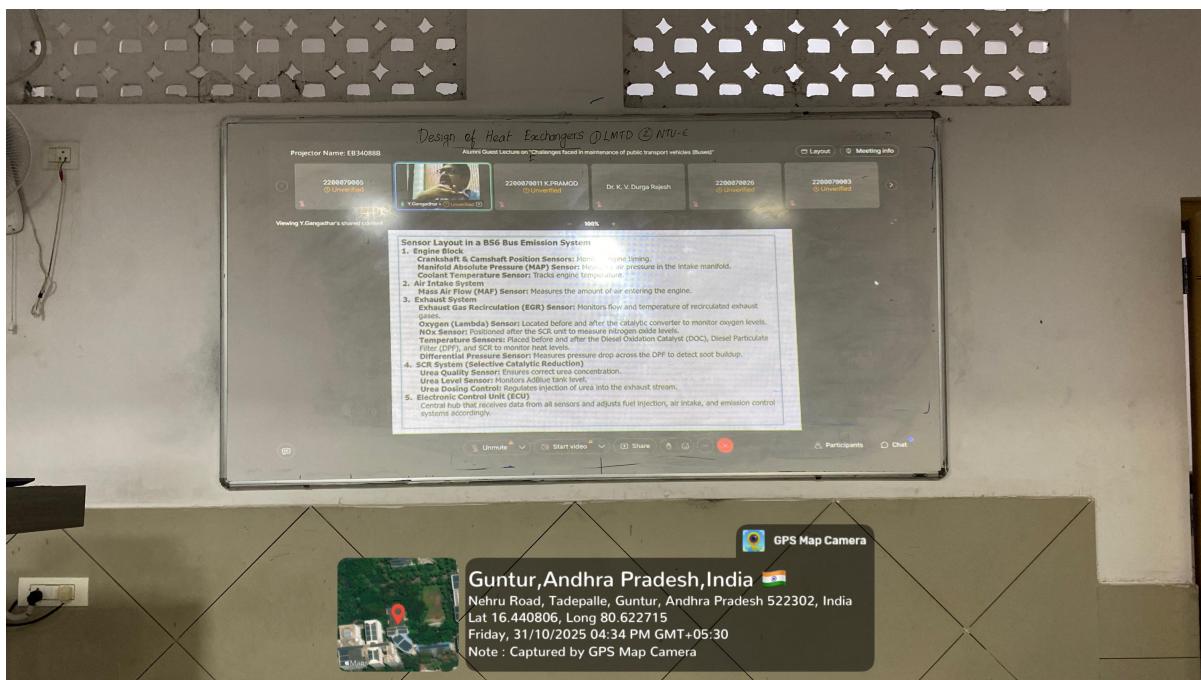
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Few students asked questions and interacted with speaker and then Dr. K. V. Durga Rajesh delivered Vote of Thanks to the speaker.

Prepared by

(Dr. A.V.S Ram Prasad)

Approved by

(Dr. T. Vijaya Kumar)