



GOVERNMENT POLYTECHNIC VALSAD

MECHANICAL DEPARTMENT



JULY: 2021

EXPERT LECTURE ON “INTERNAL COMBUSTION ENGINE (BS VI)”

Emission Development
 Engine Out | NOx After Treatment | PM After Treatment
Typical BS6 Layout – Typical BS4

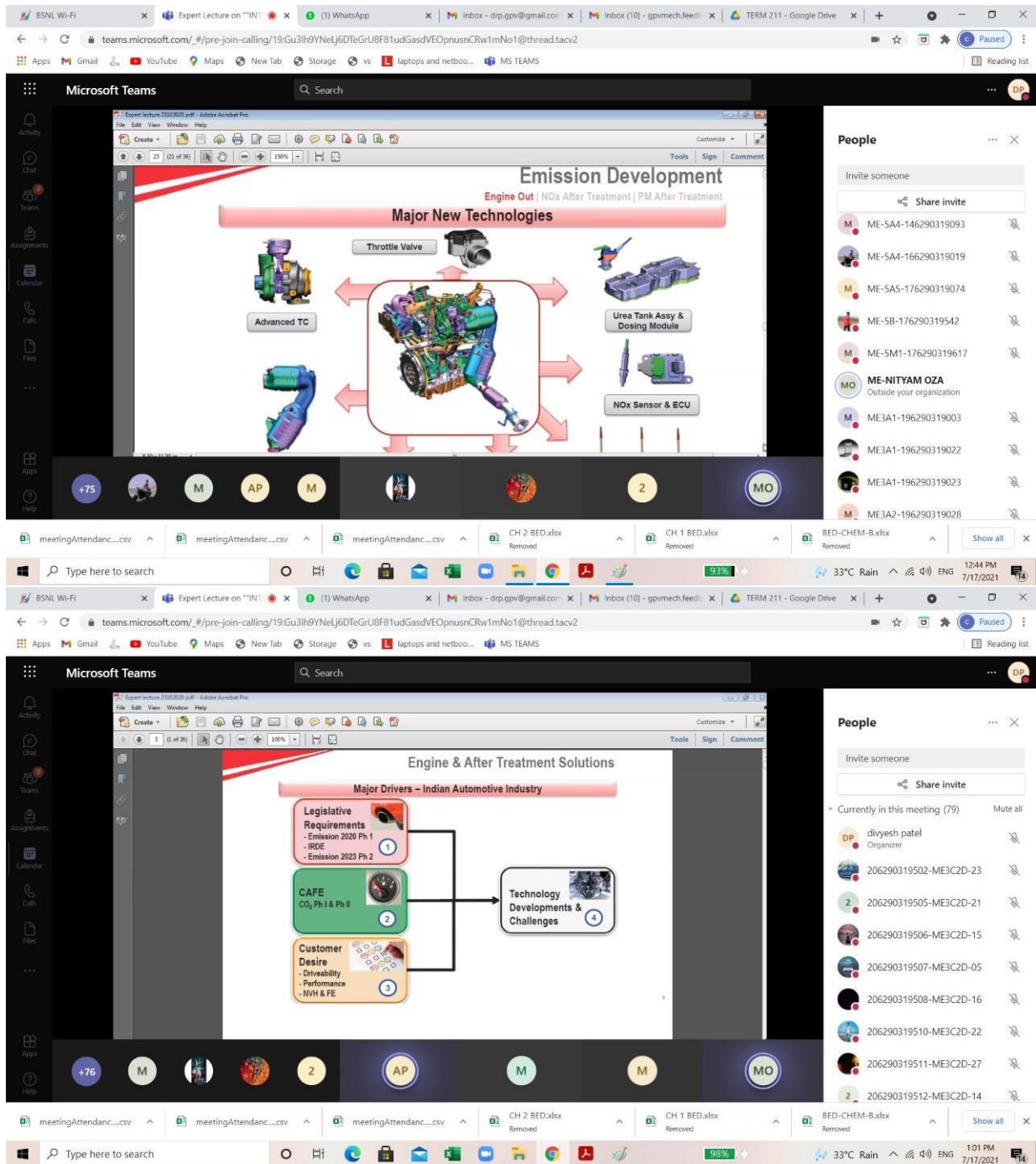
Components shown: SILENCER, DOC, EGR VALVE, COOLER, ECU, P0, Ma&T1, AIR FILTER.

Legend: RDS, Speed, Phase, CTS.

Selective Catalytic Reduction
 Engine raw emissions | NOx After Treatment | PM After Treatment

Urea Decomposition:
 Thermolysis (160 – 180 °C)
 $H_2N - Co - NH_2 \rightarrow NH_3 + NHCO$
 Hydrolysis (180 – 200 °C)

Chemical Equations:
 Std.: $4 NH_3 + 4 NO + O_2 \rightarrow 4 N_2 + 6 H_2O$
 $NO_x/NO_x < 50\%$
 "Fast": $4 NH_3 + 2 NO + 2 NO_2 \rightarrow 4 N_2 + 6 H_2O$
 $NO_x/NO_x = 50\%$
 "Slow": $4 NH_3 + 3 NO_2 \rightarrow 3.5 N_2 + 6 H_2O$



Date:-17/07/2021

An expert lecture is being organized on the topic of **“Internal CombustionEngine (BS VI)”** by Prof. **NITYAM P OZA**, Government Polytechnic College, Rajkot. He introduced about BS VI or Bharat Stage VI is the new emission standard that all vehicles in the country will have

to adhere to from April 1, 2020. The sale of BS-IV vehicles will also cease from this day.

Students are understand about BS4 (BSIV), BS6(BSVI), difference between BS4 (BSIV) and BS6 (BSVI), pollution emission norms (BS4 Vs. BS6), Impact of BS6 on CNG Cars, BS6 (BSVI) Diesel engines working, BS6 Bikes/Two-Wheelers/Scooters/Cars available in India 2020, major drivers Indian automobile industry and aware about Indian real driving emissions (IRDE) and major new technologies. This lecture will provide a platform to students to understand the process of “Internal Combustion Engine (BS VI)”.

Mechanical Department

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