

GOVERNMENT POLYTECHNIC ASTHAWAN, NALANDA(BIHAR)

(Department of Mechanical Engineering)

Lecture Plan

| Name of the Faculty | BRAJESH KISHOR | | | |
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| Email-id and Mobile Number | brajeshkishor78@gmail.com 7903691718 | | | |
| Semester / Branch | 5 th / Mechanical Engineering | | | |
| Subject Name(Subject Code) | AUTOMOBILE ENGINEERING, 1625505 | | | |
| Lecture / Week | 3 Periods / Week | | | |
| THEORY | | | | |
| Units | Week | Lectures Day | Topics | Methods of Teaching |
| 1 Introduction of Automobile | 1 | 1 | Classification of automobiles | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Vehicle layout & types | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Body construction - | Google Classroom/ What's App |

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| | | | Types & Nomenclature of car body | Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 2 | 1 | Introduction to aerodynamic body shapes | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Automobile market in India of "on road vehicles" | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | major manufacturers, their products & their collaborations | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 3 | 1 | Assignment/ Quiz for Unit 1 | Google Classroom/ Google Form/ What's App Group |
| | | 2 | Clutch- necessity, | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | construction & working of coil spring | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| 2 Automobile Transmission | 4 | 1 | diaphragm spring type clutch | Google Classroom/ What's App Group/ Hand Written Notes/ |

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| | | | | PDF/ YouTube Video Link |
| | | 2 | Gear Box- tractive effort and tractive resistance | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | types of G.B construction | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 5 | 1 | working of constant mesh G.B | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | synchromesh G.B., Epicyclical G.B | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Torque converter, Overdrive, Transfer case | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 6 | 1 | Final drive- necessity, construction | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | working of propeller shaft & differential | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube |

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| | | | | Video Link |
| | | 3 | Axle- Type of rear axles | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 7 | 1 | Front axles & their applications. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Assignment/ Quiz for Unit 2 | Google Classroom/ Google Form/ What's App Group |
| | | 3 | Steering system- Requirement of steering system | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| 3 Control Systems | 8 | 1 | Construction and working of steering linkage | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Steering gear box- construction & working of rack and pinion | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Re-circulating ball type gearbox. Introduction to Power steering | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 9 | 1 | Steering | Google Classroom/ |

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| | | | geometry- camber, caster, toe-in, toe-out, | What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Kingpin inclination & their effects. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Brake system- construction & working of hydraulic & Pneumatic brakes | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 10 | 1 | Comparison of disc & drum brake. |
| | | 2 | Assignment/ Quiz for Unit 3 | Google Classroom/ Google Form/ What's App Group |
| | | 3 | Necessity & classification of suspension system | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| 4 Suspension systems, wheels & Tyres | 11 | 1 | Working & construction of Leaf spring, rigid axle suspension. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Introduction to air suspension. | Google Classroom/ What's App |

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| | | | Construction & working of McPherson & wishbone, trailing link suspensions. | Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Construction & working of telescopic shock absorbers. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 12 | 1 | Construction & working of spoked wheel, disc wheel & light alloy cast wheel. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Types of rims, their construction & working. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Construction, working & comparison of radial, cross-ply and tubed, tubeless tyre & tyre specifications | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 13 | 1 | Factors affecting tyre life. Wheel Alignment and Balancing | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Assignment/ Quiz for Unit 4 | Google Classroom/ Google Form/ What's App |

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| 5 Automobile Electrical Systems & Body | | 3 | Battery- working, construction & rating of battery. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 14 | 1 | Ignition system- construction | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Working of electronic and CDI ignition system | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Starting system- construction | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 15 | 1 | Working of starting motor. | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Charging system- construction | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Working of alternator | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |

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| | 16 | 1 | Wiring system-harnessing | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Colour codes | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Lighting system-head light, tail light | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 17 | 1 | Indicator light & their circuits | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 2 | Gauges-construction & working of Fuel level gauge, | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | | 3 | Oil gauge and water temperature gauge | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |
| | 18 | 1 | Use of microprocessor in automobile control systems | Google Classroom/ What's App Group/ Hand Written Notes/ PDF/ YouTube Video Link |

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| | | 2 | Assignment/Quiz for Unit 5 | Google Classroom/ Google Form/ What's App Group |
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