



DEPARTMENT OF AUTOMOBILE ENGINEERING

VISION

"To develop technically skilled engineers with value-based education in automotive industry to face upcoming chances".

MISSION

- *Understanding the need for regional automotive industries.*
- *Provide hands on skills for life long professional development.*
- *To create responsible students with sense of ethics & discipline.*

Subject Name: ATS (22309)

Assignment No 1

Course Outcome: – C304.1

Questions.

1. Define 'An Automobile' and 'Vehicle Layout' and State the meaning of 'Chassis'.
2. Sketch a layout of Front engine rear wheel drive vehicle and label the major parts
3. Compare with sketches conventional frame with Integral frame.
4. Sketch any two types of frame sections and state the significance of each
5. Describe with sketch layout of Four wheel drive vehicle.
6. Give detailed classification of vehicle layout.

Course coordinator: - Mr. Rahul Gondhali

Date of Submission:



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Subject Name: ATS (22309)

Assignment No 1

Course Outcome: – C304.2

Questions.

1. State the principle on which friction clutch works and state their function.
2. Classify friction and non-friction type automotive clutches.
3. Describe with sketch working of centrifugal clutch, Single plate and Double plate.
4. Compare Single plate dry clutch with Multi-plate dry clutch.
5. List the clutch friction lining materials.
6. Compare Wet clutch with dry clutch.
7. List and explain different types of clutch operating mechanism.

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Subject Name: ATS (22309)

Assignment No 3

Course Outcome: – C304.3

Questions.

1. Describe advantages of synchromesh gear box over constant mesh gear box.
2. In a synchromesh gear box, No. of teeth of Driver gear on lay shaft - 18, Driven gear on main shaft - 39, Reverse Idler gear – 21 and First gear on lay shaft - 20.
Determine the gear ratio for
 - i. Reverse gear is in engaged position
 - ii. First forward gear is in engaged position.
3. State the types of automotive gear boxes.
4. Describe the necessity of gear box in transmission system.
5. Explain construction and working of Synchromesh and Constant mesh gearbox with diagram.
6. What is Torque converter? Explain its construction and working with diagram
7. In modern automobiles Synchromesh gear box is preferred over Constant mesh gear box. Justify its application with suitable illustrations.

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Subject Name: ATS (22309)

Assignment No 4

Course Outcome: – C304.4

Questions.

1. State function of- i) Propeller shaft ii) Universal joint.
2. Describe the construction and working of the Hollow and Solid propeller shaft.
3. State types of rear axle drives with their applications.
4. Sketch the layout of rear axle used in LMV and describe its working.
5. Compare simple Hooke's type universal joint with Constant velocity joint and justify their use in relevant transmission system.
6. State the function and construction of Slip joint.
7. Describe the construction and working of constant velocity joints.

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Subject Name: ATS (22309)

Assignment No 5

Course Outcome: – C304.5

Questions.

1. Describe with sketch working of final drive and differential mechanism along with its function.
2. Sketch the arrangement of following types of rear axles and give one application of each:
(i) Semi-floating (ii) Full floating.
3. List the types of differential.
4. Explain the necessity of final drive and differential with relevant justification.
5. Explain loads acting on the rear axles.
6. Explain the methods of lubrication for various types of axles.
7. Explain Split and banjo type rear axle casing.

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Subject Name: ATS (22309)

Assignment No 6

Course Outcome: – C304.6

Questions.

1. Describe with sketch construction of Light Alloy wheel and state its advantages over other types.
2. Write functions of Wheel and Tyre.
3. Describe with sketch construction of Wore spoke wheels.
4. Compare with sketches Tube tyre with Tubeless tyre on the basis of specifications, construction, and performance.
5. State the types of incorrect tyre inflation along with their effects.
6. Give tyre designation with one example and interpret the meaning of terms involved in it.
7. Give Classification of Tyres also give meaning of tyre aspect ratio.

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