

Government Engineering College, Dahod
Mechanical Engineering Department

List of Experiments: (Question Bank)

Subject Name: **Automobile engineering (2181915)**
Semester: **8th**

Instruction: draw diagram/figure whenever required.

Experiment 5: Study components of transmission system.

Exercises:

1. Enlist the function of Transmission system.
2. Enlist elements of transmission system.
3. Explain gear ratio and principle of gearing.
4. Explain in brief various transmission systems.
5. Explain sliding mesh type gear box.
6. Explain constant mesh gear box.
7. Explain synchromesh type gear box.
8. Compare sliding, constant and synchromesh type gear box.
9. Enlist basic devices used in automatic transmission.
10. Explain epicyclic gearing in details.
11. Explain Torque convertor.
12. Explain over speed drive.
13. Explain automatic transmission system in details.
14. Explain CVT with their advantages and disadvantages.

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Experiment 6: Study constructional features and working of clutches.

Exercises:

1. Explain function of clutch.
2. Enlist types of clutch.
3. Explain clutch linkage in details to explore all components.
4. Explain Diaphragm spring type single plate clutch.
5. Compare between multi-plate and single plate clutches.
6. Explain centrifugal and wet clutches.
7. Explain fluid coupling.
8. What is the need of clutch adjustments in transmission system?
9. Explain rear drive transmission system with differential gear box in details.

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Experiment 7: Develop mathematical model of a suspension system and analyses the same.

Exercises:

1. What are the functional requirements of suspension system?
2. Explain construction of front suspension system.
3. Explain Wishbone and Macpherson type suspension in details.
4. Explain suspension springs.
5. Compare rigid and independent suspension system.
6. Explain IFS and IRS system in details.
7. Explain Roll centre analysis.

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Experiment 8 Study different types of braking systems, their constructional features and typical layout for hydraulic pneumatic and electronic brakes.

Exercise:

1. Enlist various braking system components.
2. Classified braking system.
3. Explain braking distance, weight transfer, and wheel skidding and brake adhesion.
4. Compare hydraulic and pneumatic braking system.
5. Explain ABS in details.
6. Explain Electronic braking system.

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Experiment 9: Study features, requirement and components of electrical and lighting system.

Exercises:

1. Explain various electrical and electronic components use in vehicle.
2. Explain vehicle electrical system monitoring methods.
3. Explain electronic systems of a vehicle along with different types of sensors.
4. Explain advantages and disadvantages of Electrical and hybrid vehicles.