

MODEL QUESTION PAPER  
SIXTH SEMESTER B.TECH AUTOMOBILE ENGINEERING  
**AU 010 603 AUTOMOTIVE TRANSMISSION**

**PART A**

**Answer ALL Questions ( 3 \* 5 = 15 Marks)**

1. Explain the situation where multiplate clutches replace single plate clutches and also explain the reason.
2. Explain shortly the fundamental laws for epicyclic transmission.
3. How a fluid flywheel differs from a torque converter in construction and function.
4. Explain the basic hydrostatic drive principle.
5. Name the different components required for automatic transmission system.

**PART B**

**Answer ALL Questions (5 \* 5 = 15 Marks)**

6. Explain the construction and working of a 5 speed synchromesh gear box with one reverse gear with the help of a neat figure.
7. Explain in detail the principle of overdrive with the explanation for the working of overdrive mechanism.
8. Explain the process of torque transmission and the slip characteristics for a typical torque converter.
9. Compare hydrostatic transmission with hydrodynamic drive.
10. Explain in detail the working of multiplate clutches and band brakes in automatic transmission along with their actuation mechanisms.

**PART C**

**Answer ALL Questions ( 12 \* 5 = 60 Marks)**

11. Explain briefly the construction and working of centrifugal clutches and semi centrifugal clutches with the help of neat figures. Also explain the different requirements of a clutch as a part of power transmission in automobiles.

Or

12. Explain in detail the different types of transmission gear boxes used in automobiles with the help of neat figures.

13. Briefly explain the different laws for epicyclic gear transmission with the help of a neat figure.

Or

14. Explain the construction and working of Wilson gear box with a neat figure.

15. Explain the construction and working of a typical torque converter with the help of a neat figure.

Or

16. Explain the importance of matching of torque converters and different torque converter lock up mechanisms.

17. Explain with a neat figure the construction and working of a typical hydrostatic transmission.

Or

18. Explain the CVT with its constructional details and applications along with the working. Also explain its mechanical and hydrostatic controls.

19. Discuss about the different components of a typical automatic transmission with neat sketches in detail.

Or

20. What are the requirements of automatic transmission with electronic control system?  
What is your understanding on ECTi technology in automotive transmission?