

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Fifth Semester

AE16502 – AUTOMOTIVE TRANSMISSION*(Automobile Engineering)***(Regulation 2016)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

PART A - (10 X 2 = 20 Marks)

	CO	RBT
1. What are the requirements of a transmission system?	1	R
2. What is meant by tractive effort?	1	U
3. Elucidate four main differences between fluid coupling and torque converter.	2	U
4. Define drag torque.	2	U
5. List out the types of gear trains.	3	U
6. Briefly illustrate how a gear ratio can be obtained with a single planetary gear train?	3	U
7. List out the different types of transmission.	4	U
8. What are the benefits of operating continuous variable transmission in the optimum rpm?	4	U
9. What are the different types of hydrostatic transmission combinations?	5	AP
10. Compare hydrodynamic drive with that of an electric drive.	5	U

PART B - (5 X16 = 80 Marks)

11. (a) Explain the construction and operation of a single plate clutch with a neat sketch. Write the advantages of single plate clutch over multi plate clutch. **(16)** **1** **U**

(OR)

- (b) Sketch and explain the 3 - speed constant mesh gear box with power flow for different gear ratios. **(16)** **1** **U**

12. (a) Explain the principle and operation of a fluid coupling with neat sketches. (16) 2 U

(OR)

- (b) Describe the construction and working of a single stage torque converter with a neat sketch. (16) 2 U

13. (a) Explain how first gear, second gear and third gear are obtained in Wilson gear box with a neat sketch. Deduce the gear ratio for the above mentioned gears. (16) 3 U

(OR)

- (b) Discuss the construction and operation of a Cotal electromagnetic transmission with a neat sketch. (16) 3 U

14. (a) Explain the construction and operation of Chevrolet Turboglide transmission with a neat sketch. (16) 4 U

(OR)

- (b) Discuss the importance of continuous variable transmission in a vehicle and also the working of any four types of continuous variable transmission with relevant sketches. (16) 4 U

15. (a) Describe the construction and working of a typical Janny hydrostatic drive with a neat sketch. (16) 5 U

(OR)

- (b) Discuss in detail about Ward Leonard control system and modified Ward Leonard control system with neat diagrams. (16) 5 U