

FACULTY OF ENGINEERING
B.E. 4/4 (AE) I- Semester (Suppl.) Examination, July 2014

Subject : Automotive Transmission

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions of Part - A and answer any five questions from Part - B.
PART – A (25 Marks)

- 1 What are the usual gear ratios for second gear and fourth gear? (2)
- 2 Why is sliding mesh gear box not preferred? (3)
- 3 If no power is coming through the overdrive, what may be the causes? (2)
- 4 When should the overdrive be locked? (2)
- 5 What are the limitations of fluid coupling? (3)
- 6 What is the main difference between torque converter and gearbox? (2)
- 7 What are the relative demerits of automatic transmission when compared to conventional transmission? (3)
- 8 Why is automatic transmission preferred for commercial vehicles? (3)
- 9 What are the advantages of hydrostatic drive? (3)
- 10 What are the disadvantages of electrical drive? (2)

PART – B (50 Marks)

- 11 (a) What is the principle of a "synchromesh" gear box? (3)
 (b) Discuss the constructional arrangement of constant mesh gear box. (7)
- 12 (a) How are different speeds obtained in a planetary gear box? (3)
 (b) Explain the working of Wilson epicyclic gear box? (7)
- 13 (a) Explain means used to reduce drag torque in fluid coupling. (4)
 (b) Explain three-stage torque converter with a neat sketch. (6)
- 14 (a) Why is the fluid flywheel provided in automatic transmission? (3)
 (b) Explain Maxwell automatic transmission with a neat sketch. (7)
- 15 (a) What are the advantages of electrical drive? (3)
 (b) Explain the working of typical hydrostatic drive. (7)
- 16 Write short notes on : (5 + 5)
 (a) Janney Hydrostatic Drive
 (b) Principles of Ward Leonard system of control
- 17 Write short notes on : (5 + 5)
 (a) Slip in fluid coupling
 (b) Principle of torque conversion