

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

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B. Tech 7th Semester Examination
Automotive Transmission (NS)
AU-413

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt five questions in all selecting one question from each of the section A, B, C and D of the question paper and all the subparts of the questions in section E. Use of non-programmable calculators is allowed.

SECTION - A

1. (a) Classify the transmission system and explain multi axel drives. (10)
- (b) What is the difference between mechanical and hydraulic modes of operating a clutch? (10)
2. (a) Explain chain, shaft and electric drives. (10)
- (b) Explain with the help of diagrams about working of centrifugal clutch. (10)

SECTION - B

3. What is the need for double declutching? Also explain working of synchromesh type of gear box. (20)
4. Explain significance of gear ratio. Also explain the gear shifting mechanism. (20)

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SECTION - C

5. What is torque capacity? Explain the construction and working principle of a torque converter. (20)
6. (a) Explain the principle of hydrostatic drive system. Also explain the advantage and limitations of it. (10)
- (b) Explain the principle and construction of fluid coupling. (10)

SECTION - D

7. (a) Explain Chevrolet "Turbo-glide" transmission system. (10)
- (b) Explain working of Hydraulic actuation system. (10)
8. Explain the modified Ward Leonard Control System. Also write its advantage and limitation. (20)

SECTION - E

9. Write short note on the following:
 - (i) Location of transmission system.
 - (ii) Working of Automatic clutch.
 - (iii) Difference between dry and wet type clutch.
 - (iv) Sliding type gear box.
 - (v) Multistage torque converters.
 - (vi) Converter coupling.
 - (vii) Hydraulic Actuation system.
 - (viii) Working of over-running clutch.
 - (ix) Method for reduction of drag torque.
 - (x) Centrifugal clutch. (2×10=20)