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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2011 Onwards) (Sem.5)

AUTOMOTIVE TRANSMISSIONS

Subject Code : BTAE-502

M.Code : 70485

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A**Q1. Write briefly :**

- (a) What are the different possible locations of a transmission system?
- (b) Draw the diagram for multi plate clutch.
- (c) What are the different modes to operate the clutches?
- (d) What do you mean by gear ratio?
- (e) What is the use of fluid coupling also specify its location in the transmission system.
- (f) Where is the differential located?
- (g) Write **any four** limitation of electric drive.
- (h) Draw the labeled diagram for typical Janny hydrostatic drive.
- (i) What do you mean by "ECT-I"?
- (j) Name **any three** type of gear boxes.

SECTION-B

2. Write a short note on single, two and four wheel drive with suitable examples.
3. Explain the construction and working of single plate clutch with suitable diagram.
4. Write a short note on synchromesh type gear box with suitable diagram.
5. Explain the working torque converter in detail.
6. Compare the hydrostatic drive and hydrodynamic drive systems.

SECTION-C

7. Explain the following in detail :
 - (a) Need for double declutching
 - (b) Transfer box
8. Explain in detail, the different type of drives (Belt, chain, shaft, hydraulic and electric) with suitable diagram and examples.
9. Explain in detail, the principle of early and modified Ward Leonard Control system along with their advantages and limitations. Also, discuss the performance characteristics.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.