

Roll No.

24354

B. Tech. 6th Semester (ME)

Examination – May, 2019

AUTOMOBILE ENGINEERING

Paper : ME-302-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

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|---|---|
| 1. (a) What is four wheel drive vehicle ? | 5 |
| (b) What is transfer case ? | 5 |
| (c) What is Toe-in/Toe-out ? | 5 |
| (d) What is ECR ? | 5 |

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P. T. O.

SECTION – A

- | | |
|--|----|
| 2. (a) What are various components of a Automobile ? | 10 |
| (b) Explain the working of overrunning clutch in detail. | 10 |
| 3. Write short notes on the following : | 20 |
| (a) Vehicle body type | |
| (b) Future trends in automobile | |

SECTION – B

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|---|----|
| 4. (a) What are different types of load coming on rear axle in detail ? | 10 |
| (b) Discuss the drive cive and universal joint. | 10 |
| 5. (a) What is general requirement of a transmission system ? | 10 |
| (b) Explain the working of Epi-cyclic gear box in detail. | 10 |

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SECTION – C

6. (a) Explain the **constructional detail** of lead spring in detail. 10
- (b) Discuss the **rack and pinion power steering gear** in detail. 10
7. Explain the following : 20
- (a) King pin inclination
- (b) Factors influencing the ride comforts

SECTION – D

8. (a) What are various factors affecting the brake performance? 10
- (b) What are different types of tyre wear and their causes? 10
9. Explain the following : 20
- (a) Sources of atmospheric pollution from the automobile.
- (b) Purpose and operation of lead acid battery.