

Roll No. ....

**24354**

**B. Tech. (ME) 6th Sem.**

**Examination – May, 2015**

**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 :** There are 9 questions in all . Question No. 1 is *compulsory*. Students have to attempt *five* questions in total selecting at least *one* question from each Section. All questions carry equal marks.

1. (a) What is vehicle fram ? Explain with neat sketch.

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P. T. O.

(b) What are safety features of latest vehicles ?  
Mention briefly.

(c) Explain the principle of overdrive.

(d) What is ECK ?  $4 \times 5 = 20$

#### SECTION - A

2. Explain front and rear drive vehicles with neat sketch. 20

3. What is clutch ? Explain multiplate and centrifugal clutch. 20

#### SECTION - B

4. What is gear box ? Explain its types in detail. 20

5. What is differential ? Explain principle and operation of differential. 20

#### SECTION - C

6. What are springs ? Explain the working and characteristics of leaf springs. 20

7. What is steering system ? Explain power steering system with neat and clean diagram. 20

**SECTION - D**

8. Explain the principle of drum brakes. Also discuss constructional details of drum brakes & disc brakes. 20

9. What is lead acid battery ? Explain its construction & operation. 20