

MANIPAL INSTITUTE OF TECHNOLOGY MANIPAL

II SEMESTER M.TECH. (AUTOMOBILE ENGINEERING) END SEMESTER EXAMINATIONS, APRIL/MAY 2017

SUBJECT: TWO WHEELER AND THREE WHEELER [AAE 5239]-ELE I

REVISED CREDIT SYSTEM (25/04/2017)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ALL the questions.

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- Missing data may be suitable assumed.
- Use of Combustion data hand book is permitted.

1A.	Explain foot operated mechanical brake with a neat sketch.	(03)
1B.	Provide a brief classification of motorcycles and explain the features of each type.	(04)
1C.	Show the layout of a three-wheeler passenger vehicle.	(03)
2A.	What is meant by magneto ignition system? Illustrate its working with a labelled diagram.	(03)
2B.	Explain the working of a roller pump with a neat sketch.	(03)
2C.	Explain any four sensors used in electronic injection systems in gasoline engines.	(04)
3A.	Discuss splash lubrication system with a neat sketch and mention its drawbacks.	(03)
3B.	Explain any four design parameters for brakes.	(04)
3C.	With a neat sketch, explain the kick start mechanism in two-wheelers.	(03)

4A.	Explain the working of a centrifugal clutch with a neat sketch.	(04)
4B.	With neat sketches, compare automatic and manual transmission in two-wheelers.	(04)
4C.	Show the labelled layout of a shaft drive used in two-wheelers.	(02)
5A.	Explain step-through type frame with a neat sketch.	(04)
5B.	Illustrate the working of a springer fork type suspension with a neat sketch.	(04)
5C.	What is the significance of trail in two-wheelers?	(02)