

<b>4<sup>th</sup> Semester</b>	<b>RAU4D001</b>	<b>Two &amp; Three Wheelers</b>	<b>L-T-P 3-0-0</b>	<b>3 CREDITS</b>
--------------------------------	-----------------	---------------------------------	------------------------	------------------

**MODULE- I (8 hrs)**

**The Power Unit**

Two stroke and four stroke SI engine, merits and demerits, symmetrical and unsymmetrical port timing diagrams. Types of scavenging processes, merits and demerits, scavenging efficiency. Scavenging pumps.

**MODULE- II (9 hrs)**

**Chassis and Sub-Systems**

Main frame, its types. Chassis and shaft drive. Single, multiple plates and centrifugal clutches. Gear box and gear controls. Front and rear suspension systems. Shock absorbers. Panel meters and controls on handle bar.

**MODULE- III (10 hrs)**

**Ignition System, Brakes and Wheels**

Fuel system. And lubrication system. Magneto coil and battery coil spark ignition system.

Electronic ignition system. Starting system. Kick starter system.

Drum brakes, disc brakes, front and rear brake links lay-outs. Spoked wheel, cast wheel. Disc wheel, disc types, Tyres and tubes.

**MODULE- IV (8 hrs)**

**Stability and control:**

Stability and control of two wheelers on straight and curved path, Stability and control of three wheelers on straight and curved path, manufacturing process for two and three wheelers

**MODULE- V (10 hrs)**

**Two Wheelers**

Case study of major Indian models of motor cycles, scooters and mopeds. Bajaj, Vespa, lamberts scooters. Enfield, TVS-SUZUKI, hero Honda, Yamaha rx-100, Kawasaki Bajaj motor cycles. Kinetic spark, hero majestic, TVS mopeds. Servicing and maintenance.

**Three wheelers**

Case study of Indian models. Front engine and rear engine. Auto rickshaws. Pick up van. Delivery van and trailer.

**Book:**

- Irving. P.E., motor cycle engineering, temple press book, London, 1992.
- The cycle motor manual, temple press ltd., London, 1990.
- Encyclopedia of motor cycling, 20 volumes, Marshall Cavendish, New York and London, 1989.
- Bryaut. R.V., Vespa maintenance and repair series. Raymond broad, lambretta – a practical guide to maintenance and repair, 1987.