Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

IV SEMESTER B. TECH (MECHANICAL / IP ENGG) END SEMESTER EXAMINATIONS, MAY 2019

SUBJECT: AUTOMOBILE ENGINEERING [MME2204]

REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.

1A.	Differentiate clearly between single and multi-cylinder engines with simple sketch.	**03**
1B.	What is piston slap? Explain with a neat sketch.	**03**
1C.	Draw and Explain working of an L-head side valve under head camshaft mechanism. And it's Advantages.	**04**
2A.	Sketch and explain full pressure lubrication system in an IC engine.	**03**
2B.	What are the factors which affect the Ignition advance? Explain with a neat sketch the working of Centrifugal advance.	**03**
2C.	With a neat sketch explain the working of a Mechanical Fuel Pump.	**04**
3A.	Draw and explain working of a Sliding Mesh gear box from 1^{st} gear to 4^{th} gear and reverse gear.	**03**
3B.	A single plate clutch is to have a maximum capacity of 56 kW at 1800 r.p.m. the clutch has a coefficient of friction of 0.4 and permissible pressure of 207k Pa. The clutch is engaged through 12 springs. Determine the diameters of the clutch plate, if the inner diameter is 0.7 times the outer.	**03**
3C.	Draw and Explain working of a semi-centrifugal clutch.	**04**
4A.	What is the difference between Wish bone and MacPherson front suspension system? Explain with a sketch	**03**
4B.	Sketch and explain the steering linkages of a Rigid axle suspension and its disadvantages over Independent suspension.	**03**
4C.	Compare the Hotchkiss and torque tube drive and draw the neat sketch.	**04**
5A.	What is the difference between drum and Disc brake?	**03**
5B.	Explain with a neat sketch working of sliding caliper type disc brake.	**03**
5C.	Draw and explain working of Master Cylinder of a Hydraulic braking system.	**04**