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**MANIPAL INSTITUTE OF TECHNOLOGY**  
Manipal University, Manipal – 576 104



**V SEM. B.TECH. (INDUSTRIAL & PRODUCTION ENGG.) DEGREE END  
SEMESTER (MAKE UP) EXAMINATIONS DEC 2015/JAN 2016**

**SUBJECT: AUTOMOBILE ENGINEERING (MME-347)  
REVISED CREDIT SYSTEM**

Time: 3 Hours.

MAX.MARKS: 50

**Instructions to Candidates:**

❖ Answer **ANY FIVE FULL** questions..

- 1A) Sketch and Explain working of overhead valve mechanism and its advantages over other. **(03)**
- 1B) Draw and explain any two methods to overcome difficulties during starting of engine of a Simple Carburetor. **(04)**
- 1C) Explain with a neat sketch working of electrical fuel pump. **(03)**
- 2A) Which are the factors affecting ignition advance? Explain. **(03)**
- 2B) With a neat sketch explain the working of a Vacuum advance mechanism **(03)**
- 2C) With a neat sketch explain the working of Fluid flywheel. **(04)**
- 3A) Explain with a neat sketch Sliding Mesh gear box and show the diagram of engaging gear 1<sup>st</sup> and 4<sup>th</sup> gear. **(04)**
- 3B) Differentiate between Hotchkiss drive and Torque tube drive with a neat sketch **(03)**
- 3C) What are the requirements of Good Steering System and Suspension system? Explain. **(03)**
- 4A) With neat sketch the working of thermo syphon cooling system **(03)**
- 4B) Explain with a neat sketch the working of Swinging caliper and compare with sliding caliper. **(04)**
- 4C) With a neat sketch explain the working of a Mechanical Braking system. **(03)**
- 5A) Draw and explain the working of a Macpherson suspension system. Mention its advantages over Wishbone suspension system **(04)**

- 5B) Explain the differences between the Three-floating and Semi floating axle. **(03)**
- 5C) Draw and explain working of a differential gear of an automobile. **(03)**
- 6A) Explain the working of a Servo Vacuum Brake system with a neat sketch **(03)**
- 6B) What is the difference between Rigid axle and Independent suspension system? **(03)**
- 6C) With a neat sketch explain the working of Single plate clutch. **(04)**