

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

00292

**December, 2017**

**BME-061 : AUTOMOBILE ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Answer any *five* questions. All questions carry equal marks. Use of scientific calculator is permitted.

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1. (a) Describe any four components of a chassis. 7  
(b) Write the functions of lubrication in an automobile. Write the different types of lubricants. 7
2. Explain the construction of various frames used in automobiles with a neat sketch. 14
3. With the help of a neat sketch, explain in detail, the construction and working of different engine components. 14
4. Sketch and explain different types of suspension systems used in automotive engines. 14
5. Discuss in detail, the working principle of a simple carburettor system. 14

6. (a) Describe the function of clutch in the transmission system of an automobile. 7
- (b) Differentiate between a sliding mesh and a constant mesh gear box. 7
7. A simple gear train has two gears which are mounted on two different shafts. Gear 1 which is the driver, runs at 2000 rpm. The number of teeth on gears 1 and 2 are 30 and 60 respectively. Determine : 14
- (a) Speed ratio of the gear train,
- (b) Train value of the gear train,
- (c) Speed of the second gear, and
- (d) Direction of rotation of driven if the driver (gear 1) rotates in anticlockwise direction.
8. (a) What do you mean by steering geometry ? Explain with a neat diagram. 7
- (b) Describe in brief various types of braking systems. 7
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