

Code No: H2108/R13

M. Tech. II Semester Regular/ Supplementary Examinations, July-2016

**ADVANCED AUTOMOBILE ENGINEERING**

(Thermal Engineering)

Time: 3 Hours

Max. Marks: 60

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*Answer any FIVE Questions*  
*All Questions Carry Equal Marks*

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| 1. a | What is an overdrive? What are its advantages?  | 5 |
| b    | Explain briefly the double reduction type differential.   | 7 |
| 2. a | What is the difference between constant-mesh and synchromesh transmission? Describe any one of them.                      | 6 |
| b    | List various types of rear axles. Explain the advantages and disadvantages of a live rear axle.                           | 6 |
| 3. a | Explain the working of a pneumatically operated four wheel brake system with a sketch.                                    | 7 |
| b    | Explain various requirements of automobile brakes.  | 5 |
| 4. a | List and explain the various components in power steering.  | 7 |
| b    | What are the functions of steering gear? List any three types of steering gears   | 5 |
| 5. a | Explain the working of electromagnetic suspension system combined with hydraulic suspension system.                       | 7 |
| b    | What are the advantages of independent suspension over the rigid axle suspension?   | 5 |
| 6. a | What are the main requirements of a regular charging system? Explain in brief a simple charging system                    | 7 |
| b    | What is the Flemings Left hand rule? Relate the law with the battery charging system.                                     | 5 |
| 7. a | What are the common troubles in engine starting system? Suggest your remedies.  | 6 |
| b    | What are the driving techniques you adapt when drive at night? And what do you do when your car Tyrebursts while driving? | 6 |
| 8. a | Write briefly about the Indian Motor Vehicle Act.   | 7 |
| b    | Draw and explain few road signals   | 5 |

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