

Q.P. Code : 729702

(3 Hours)

[Total Marks : 80

- N.B. 1. **Question No.1** is compulsory
 2. attempt **any three** out of remaining questions
 3. Draw neat sketches to illustrate your answers
 4. Figures to the right indicate full marks.

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| 1. With the help of neat sketch explain in brief; | 20 |
| a) Transmission system | |
| b) Air Brake system | |
| c) Starting system (Bendix drive) | |
| d) Steering geometry | |
| 2. Write a short note on | 20 |
| a) Leading and trailing shoe | |
| b) Battery ratings | |
| c) Aerodynamics | |
| d) Fluid coupling. | |
| 3. A) Enlist the sensors used in modern automobiles with their functions in brief | 14 |
| B) Describe tubeless tyre and its advantages | 6 |
| 4. A) What is the necessity of gear box? Explain the trouble shooting and remedies of gear box. | 10 |
| B) Explain with sketch Mac Pherson suspensions used in cars, with its advantages | 10 |
| 5. A) Discuss in brief various types of batteries. Explain the working of Lead Acid Battery. | 10 |
| B) Discuss the following | 10 |
| i) Alternator versus Generator | |
| ii) Overrunning clutch | |
| 6. A) Discuss; Open, Semi Integral and Integral structures | 10 |
| B) Draw the circuit diagram and explain the working of combined Current and Voltage Regulator. | 10 |