

**II B. Tech II Semester Supplementary Examinations, February - 2022**  
**AUTOMOTIVE ENGINES**  
 (Automobile Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
 All Questions carry **Equal** Marks

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- 1 a) With the help of a neat sketch explain Splash Lubrication system? Also discuss its advantages and disadvantages? [8M]  
 b) Explain with a simple schematic diagram, working of a four-wheel drive automobile? [7M]
- Or
- 2 a) Write about functions of a propeller shaft and Hotch – Kiss drive? [7M]  
 b) Write about splash and pressure lubrication systems with a neat sketch? [8M]
- 3 a) Explain about the types of steering gears? [7M]  
 b) Explain clearly how the King-Pin inclination produces directional stability? [8M]
- Or
- 4 a) Write about single plate clutch and multi plate clutch in detail? [8M]  
 b) Explain about torque tube drive and universal joint with neat diagram? [7M]
- 5 a) Sketch and explain the construction and working principle of the re circulating Ball type steering gear? [8M]  
 b) What requirements are expected in a good steering system? [7M]
- Or
- 6 a) Explain about independent suspension system? [8M]  
 b) Write about rigid axle suspension system and shock absorber? [7M]
- 7 a) What are the Lubricant Requirements & Explain Necessity and limitation of supercharging? [8M]  
 b) Draw and explain in detail with a simple sketch, working of master cylinder in braking system. [7M]
- Or
- 8 a) Write about engine specification with regard to speed? [7M]  
 b) Write about engine specification with regard to number of cylinders and arrangement? [8M]
- 9 a) Explain Stratified charge engine? [7M]  
 b) What are the variables that affects SI engine performance? [8M]
- Or
- 10 a) Explain HCCI and RCCI engines? [9M]  
 b) Explain Modes of heat transfer? [6M]

