

**B.TECH. DEGREE EXAMINATION, MAY 2016****Eighth Semester**

Branch : Mechanical Engineering  
AUTOMOBILE ENGINEERING (M)  
(Old Scheme—Prior to 2010 Admissions)  
[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

**Part A**

Answer **all** questions.  
Each question carries 4 marks.

1. Discuss different types of engines used in automobiles.
2. What are the different types of cooling systems used in automobiles ? What are its advantages and disadvantages ?
3. How centrifugal clutches works ?
4. What is the function of a transfer case ?
5. State requirements of a steering system.
6. What is the function of anti-roll bar in automobiles ?
7. How air bags works ?
8. What is meant by a hybrid vehicle ? Give examples.
9. What is the function of a voltage regulator ?
10. List out various garage tools and their use.



(10 × 4 = 40 marks)

**Part B**

11. (a) Explain MPFI system and CRDI system.  
(b) What is the need of lubrication in automobiles ? Explain different types of lubricating system used in automobiles.

Or

12. (a) Explain different factors affecting vehicle performance.  
(b) Explain with neat figure working of a Carburettor.

**Turn over**

13. (a) What is the mechanism behind automatic transmission ? How it works ?  
(b) Explain working of a constant mesh gear box.

*Or*

14. (a) With fig explain working of a torque tube.  
(b) What is the need of differential in an automobile ? How it works ?
15. (a) How power steering works ? How Ackerman steering system works ?  
(b) Explain different types of suspensions systems used in an automobile.

*Or*

16. Explain castor, camber, king pin inclination, toe-in toe out.
17. (a) Explain the safety features used in modem vehicles.  
(b) How pneumatic brakes works ?

*Or*

18. (a) What is a hybrid vehicle ? How it works ?  
(b) Explain different types of wheels used in vehicles?
19. (a) Explain battery ignition system.  
(b) How Bendix drive works ?

*Or*

20. (a) Explain about preventive and brake down maintenance to be done in an automobile.  
(b) What is engine tuning and wheel balancing ?

(5 × 12 = 60 marks)

