

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (Sem.-3rd)
AUTOMOTIVE CHASSIS SYSTEMS
Subject Code : BTAE-303 (2011 Batch)
Paper ID : [A1121]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A

1. Write briefly :

- (a) List various components mounted on chassis frame.
- (b) What do you mean by centre point steering?
- (c) Explain the function of Panhard rod in automobile.
- (d) What load does axle shaft carry in full floating axle?
- (e) What do you mean by slip angle?
- (f) What do you mean by unsprung weight of a vehicle?
- (g) What is the effect of un-lubricated leaf springs on vehicle suspension?
- (h) How a tyre is designated?
- (i) State the purpose of well in a wheel rim.
- (j) What do you mean by leading shoe in brakes?

SECTION-B

2. Explain with sketch recirculating ball steering gear. How backlash is adjusted in it?
3. What is constant velocity joint? Explain its working and applications in automobiles.
4. What is the function of an anti-roll device in vehicle suspension and stability? Sketch and explain.
5. Explain how wheel skidding is caused and various techniques used to prevent it in braking system.
6. Explain necessity and procedure of wheel balancing.

SECTION-C

7. Define the operation of a non-slip differential clearly explaining the conditions necessitating its usage.
8. Explain with sketch principle, working and application of telescopic shock absorbers in suspension system of automobiles.
9. Explain various front wheel geometry angles and discuss their effect on steering characteristics of vehicles.