Printed page – **EAU-011**

(Following Paper ID and Roll No. to be filled in your Answer Book)										
PAPER ID :	**Roll No.**									

B.Tech.

(SEM. VI) EVEN SEMESTER THEORY
EXAMINATION 2015-16

AUTOMOTIVE CHASSIS AND SUSPENSION

Time : 3 Hours *Total Marks : 100*

Note:- Attempt **all** questions.

SECTION A

1. Attempt **all** questions: **(10 x 2=20)**

a) What are the various universal joints in use?

b) What is a slip joint?

c) What is the necessity of a propeller shaft?

d) Define steering ratio?

e) Why are stub axles fitted in front axles?

f) What is bouncing in the suspension system?

g) What is known as wish bone?

h) What is meant by torque multiplication?

i) What is the principle of synchro-mesh gear box?

j) What is the limitation of electric drive?

SECTION B

2. Attempt any **five** questions of the following: **(10 x 5=50)**

a) What is the function of universal joint in transmission system? Why the driven and driver propeller shaftsnot joined together permanently?

b) What is self righting torque? How slip angle affect the self righting torque?

c) Explain how the slip angle affects the under – steering and over – steering?

d) Differentiate between independent suspension system and rigid axle suspension system.

e) What is the need of clutch in the transmission system? Write down the requirement of a good clutch.

f) What do you mean by gear ratio? What is the significance of low and high gear ratio?

g) What do you mean by a transmission system? Is gear box a complete transmission device? How is a gear box different from a transfer box?

h) How does a torque converter differ from a fluid coupling? Explain the working principle of any one of them.

SECTION C

Attempt any **two** questions of the following: **(15 x 2=30)**

3. With the help of a suitable sketch describe the working of any one type of steering system used in a modern passenger car?

4. Explain briefly the elements of a suspension system and discuss the bouncing, rolling and pitching suspension movement of cars?

5. How is the size of a clutch plate determined? How does the uniform pressure criteria differ from the uniform wear consideration? How does the mean effective radius influence the torque transmitting ability in both the design criteria.