Printed Pages : 1 **Roll No.** | | | | | | | | | | | **NAU601**

B. TECH.

THEORY EXAMINATION (SEM–VI) 2016-17

AUTOMOTIVE CHASSIS AND SUSPENSION

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt all of the following questions: **10 x 2 = 20**

a) Define the over steering and under steering.

b) What is Hotchkiss drive in an automobile?

c) What is the king pin inclination?

d) Define the term torque capacity.

e) What are the main functions of Gear box?

f) Define the term wheel track.

g) What is the main function of differential?

h) What is slip joint?

i) What is the function of vibration dampers?

j) Why stub axles are fitted in front axle.

SECTION – B

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

(a) What are the functions of chassis frame and its type? List out the various load act on the frame.

(b) What do you mean by torque converter? Discuss the application in modern vehicle.

(c) What do you mean by air bleeding process in hydraulic brake system and explain the construction of master cylinder with neat sketch?

(d) List out different types of steering gear box used in automobile vehicle. Explain the rack and pinion type

(e) What is Epicycle gear box? Describe its principle and working with the help of neat sketch.

(f) Define the power brake. Explain the working of servo system in power brake.

(g) Explain the wheel balancing. How tubeless tyre is differ from normal tyre.

(h) Write short note on:

(i) Independent suspension system

(ii) Fluid coupling

SECTION – C

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

3. What are the needs of clutch used in transmission system? Explain the requirements of good clutch and classified the various type of clutches.

4. What is the main purpose of transfer gear box in four Wheels Drive? Explain the function and requirement of propeller shaft?

5. Explain briefly the elements of a suspension system and discuss the bouncing, rolling and pitching suspension movement of a car.