

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
SECOND SEMESTER EXAMINATION 2018/2019 SESSION

COURSE CODE: ITE328

COURSE TITLE: BRAKING, STEERING AND SUSPENSION SYSTEM

TIME: 2HRS

INSTRUCTION: Attempt only (4) Questions

1. a, With a simple diagram, explain the working principles of a disc brake.
b, Enumerate THREE conditions that necessitate the bleeding on hydraulic braking system
c, As a whole-to be a professional mechanic, explain briefly the procedure that you will adopt in carrying out the bleeding operation.
2. a, With the aid of a suitable diagram, explain the action of double acting master cylinder
b, Differentiate between the atmospheric and vacuum suspended types, of brake servo booster.
c, Enumerate FIVE functional requirements of a good braking system.
3. a, Identify FIVE major factors that influence good steering
b, Produce a well labelled diagram of an arrangement of a steering system.
c, Differentiate between Fifth wheel and Ackerman types of steering.
4. a, Briefly explain the constructional and operational principles of rack and pinion types of steering gearbox.
b, Outline FIVE major limitations of Power Assisted Steering.
c, Differentiate between castor and camber angles as they affect steering geometry.
5. a, With aid of a suitable sketch, examine the working principles of hydraulic damper.
b, Differentiate between wheel balancing and wheel alignment
c, Enumerate TWO merits and THREE demerits of Independent Front Suspension System