

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
FIRST SEMESTER EXAMINATION 2022/2023 SESSION

COURSE CODE: ITE314

COURSE TITLE: FUEL SUPPLY SYSTEM AND CARBURETION

TIME: 2HRS

INSTRUCTION: Attempt only Four (4) Questions

1. a, Enumerate the role played by the following additives in liquid gasoline: i, Oxidation inhibitors ii, metal deactivators iii, Rust resistors iv, Detergent and v, Phosphorous compound.
b, Explain briefly the following properties of liquid fuels: i. Caloric value ii, Octane number iii, Cetane number iv, Volatility and v, Ignition temperature.
c, Identify the purpose of the following in the fuel supply system: i, Fuel gauge ii, Fuel return lines iii, Fuel pump and v, Fuel tank. Why are fuel tanks generally baffled?
2. a, I, What are the responsibilities of fuel injection system. II, Briefly enumerate the purpose of: i, pumping elements ii, metering elements iii, metering control iv, mixture control and v, distributing elements
b, Identify FIVE (5) limitations of modern carburetor.
c, Differentiate between constant choke and constant vacuum carburetor in terms of their actions.
3. a, Enumerate FIVE (5) symptoms that may indicate there is a problem with an exhaust system
b, With a simple diagram, indicates the two sections of a simple carburetor and explain its principle.
c, Differentiate between catalytic converter and oxygen sensor.
4. a, What is carburetion? Explain the with aid of suitable sketches the actions of an induction system.
b, Enumerate FIVE (5) factors that influence carburetion process in an internal combustion engine.
c, What is supercharging and super charger?
5. a, With aid of a diagram explain the action of electrical fuel pump.
b, Identify FOUR (4) comparison between mechanical and electrical types of fuel pumps.
c, Enumerate briefly the following parts of a carburetor: i, venturi ii, throttle valve iii, main air tube iv, strangler and v, jet.

Best @wishes