

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
FIRST SEMESTER EXAMINATION 2021/2022 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, Enumerate FIVE (5) symptoms of fuel supply system showing signs of wear
b, With a simple diagram, explain the working principles of gravity type of fuel supply system.
3. a, When do you think combustion can occur? ii, What are the compositions of oxygen and nitrogen by mass and volume required for complete combustion.
b, What is carburetion? Explain the with aid of a beautiful diagram the principles of an induction system.
4. a, Clearly state the main function of an exhaust system.
b, Provide a well labelled diagram of an exhaust system.
c, Enumerate i, exhaust manifold ii, oxygen sensor iii, catalytic converter iv, muffler and v, resonator.
5. a, With aid of a diagram explain the action of oil wetted type of air filter.
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