

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
School of Science and Technology Education
Department of Industrial and Technology Education
FIRST SEMESTER EXAMINATION
2019/2020 SESSION

Course Title: - Power Engines

Course Code: - ITE 516

INSTRUCTION: - ANSWER ANY FOUR (4) QUESTIONS

TIME ALLOWED: - 2HRS

- Q1a. Define the term supercharger?
b. What is a turbocharger?
c. Show, with the aid of sketches, show the plunger and barrel of an injection pump are constructed so as to provide control of the fuel admitted to the engine?
- Q2a. What is meant by (i) Phasing, (ii) Calibration of an in-line plunger type of injector pump, for a compression ignition engine?
b. List any four main constructional differences between compression ignition engine and spark ignition engine?
- Q3a. With the aid of a neat sketch, draw typical compression ignition combustion chambers?
b. Enumerate five symptoms which might indicate that an injector pump requires servicing?
- Q4a. What is a glow plug as it's applied to diesel engine?
b. List five differences between a diesel oil and petrol?
c. Enumerate three types of injector nozzles?
- Q5a. State two safety precautions to be observed when working on compression ignition engines?
b. List two common types of injection pump used in compression ignition engine?
c. What two parts make up the pumping element for an injection pump?
- Q6a. With the aid of a neat sketch, draw a multi-hole injector nozzle and label it?
b. Give three reasons why hydraulic governors are widely used than the mechanical type?