Assignment 4

The due date for submitting this assignment is the 23rd of January.

Due on 2023-01-23, 23:59:59 IST.

1. The pressure of condensation at 0.2 MPa starts from the state of maximum cylinder pressure and ends at that of maximum cylinder temperature. It is called as___.
   - Ignition delay pressure
   - Period of rapid compression
   - Period of variable compression
   - Period of after formation
   - No, the answer is incorrect.

2. Which of the following statements is INCORRECT about knocking in 0.2 MPa engines?
   - Knocking occurs in the middle stages of combustion
   - The ignition delay decreases as the engine's speed increases
   - Knocking is characterized by pressure fluctuations
   - No, the answer is incorrect.

3. Which of the following statements is INCORRECT about knocking in 0.2 MPa engines?
   - Knocking occurs in the middle stages of combustion
   - The ignition delay decreases as the engine's speed increases
   - Knocking is characterized by pressure fluctuations
   - No, the answer is incorrect.

4. Which of the following behave does not significantly affect the process of combustion?
   - Number of cylinders
   - Engine speed
   - Ignition timing
   - Temperature of intake air
   - No, the answer is incorrect.

5. Which of the following is not the limitation of a simple combustor?
   - High combustion
   - High reproducibility
   - Low external energy spent for fuel preheating
   - Difficult to control over a wide range of operating conditions
   - No, the answer is incorrect.

6. Which of the following is a crucial characteristic of a simple combustor? (Choose one)
   - High combustion
   - High reproducibility
   - Low external energy spent for fuel preheating
   - Difficult to control over a wide range of operating conditions
   - No, the answer is incorrect.

7. The injector process by which fuel is introduced near each intake valve is called as
   - Port injection
   - Direct injection
   - Common rail injection
   - In-cylinder injection
   - No, the answer is incorrect.

8. The ratio of the operating pressure (bar) to the density in gasoline direct injection is
   - 1:1
   - 1:2
   - 1:3
   - 1:4
   - No, the answer is incorrect.

9. In a combustor, the speed at which the injection reaches the maximum is
   - Reduced
   - Increased
   - Inflates
   - No, the answer is incorrect.

10. A rich fuel-air mixture is obtained during lean burn by
    - Opening the choke valve
    - Closing the choke valve
    - Opening the throttle valve
    - Closing the choke valve
    - No, the answer is incorrect.

11. Which of the following does not influence the mass flow rate of air in a simple combustor? (Choose one)
    - Area of the venturi throat
    - Property of intake air
    - Temperature of intake air
    - Overall equivalence ratio
    - No, the answer is incorrect.

12. For the same pressure drop (Δp = Δp) in a simple combustor, which one of the following would not significantly influence the mass flow rate of air? (Choose one)
    - Area of the venturi throat
    - Density of air
    - Area of the fuel-air mixture
    - Overall equivalence ratio
    - No, the answer is incorrect.