Assignment 5

The due date for submitting this assignment has passed. As per our policy, you have not submitted this assignment.

- Among the following, which one is not considered in fuel-air cycle?
  - chemical composition of gas
  - chemical non-equilibrium
  - dissociation
  - change in gas volume
  No, the answer is incorrect.

- The effect of dissociation is
  - to reduce cycle thermal efficiency
  - to reduce specific power output of the cycle
  - to increase cycle thermal efficiency
  - to decrease cycle thermal efficiency
  No, the answer is incorrect.

- With dissociation, the peak temperature is obtained
  - at the stoichiometric fuel-air ratio
  - when the mixture is slightly rich
  - when the mixture is slightly lean
  - when the mixture is stoichiometric
  No, the answer is incorrect.

- The practical efficiency of a good engine is ________ of the estimated fuel-air efficiency.
  - 100%
  - 85%
  - 50%
  - 37%
  No, the answer is incorrect.

- For a compression process with variable specific heat, the peak temperature and pressure are
  - lower
  - higher
  - inversely proportional
  No, the answer is incorrect.

- When the spark is advanced, work output is less as
  - the peak pressure is low
  - the peak temperature is low
  - additional work is required to compress the burning gas
  - frictional losses increase
  No, the answer is incorrect.

- The major source of loss in a CI engine is
  - direct heat loss
  - incomplete combustion loss
  - rubbing friction loss
  - pumping loss
  No, the answer is incorrect.

- During the operation of an Otto cycle with compression ratio of 10, q5 decreases by 5%. If the ratio of specific heat is 1.4, then the percentage change in the efficiency of the cycle (corrected to 1 decimal place) is ________%.

- During the operation of a diesel cycle with compression ratio of 15 and cut-off ratio of 10% of the swept volume, e5 decreases by 2%. If e5 = 0.2355 and ratio of specific heat = 1.4, then the percentage change in the efficiency of the cycle (corrected to 1 decimal place) is ________%.  

No, the answer is incorrect.