**Question 1:** Below listed data are provided for a four stroke internal combustion which operated according to Otto cycle principle

Pressure at the beginning of expansion stroke is 50x105Pa,

Temperature at the end of the heat input is 1217oC .

The pressure at the beginning of compression stroke is 1,01x105Pa and temperature at this point is 298K.

The thermal efficiency is 0.6. Calculate the mean indicated pressure of this cycle.



**Question 2:** Below listed data are provided for a four stroke internal combustion engine which operates according to the Seiliger cycle.

Temperature and the pressure at the beginnig of compression stroke is 50oC and 0.85 bar respectiveley.

The temperature and the pressure at the end of the compression stroke is 700oC and 41bar.

The temperature is 2646oC and pressure is 61,5bar at the end of the heat input process. Calculate the thermal efficiency and mean indicated pressure of this cycle.



**Question 3:** Below listed data are provided for a four stroke internal combustion engine which operates according to diesel cycle.

Temperature at the beginning of compression stroke is 60oC and pressure is 0,9x105Pa at this point.

Temperature at the end of the compression stroke is 680oC and the temperature at the end of expansion stroke is 990K. The ratio of specific heats is 1.4. Calculate the temperature and pressure of characteristic cycle points. Calculate the indicated mean effective pressure of the cycle.

