1. The thermal core power produced by a PWR is 2772.0 MWt and the total number of fuel assemblies is 177 with average heavy metal weight per assembly 370 kgU. The average core exposure at BOC is 2.92 GWD/MTU. If the cycle length is defined to be 650 EFPD what is the average core exposure at EOC for this PWR?

2. A depletion calculation is performed for an 1100 MWe reactor with efficiency of 31 %, a capacity factor of 65%, and a time step equal to 250 MWD/MTU. The core contains 90 tons of fuel. What is the real time in days corresponding to that depletion step?

3. A reactor loaded initially with 125 kg of 93% enriched $^{235}$U in the form UO$_2$ depletes in a constant neutron flux of $\Phi = 5 \times 10^{13}$ n/(cm$^2$ x s) for one effective full power year. Assuming thermal absorption cross-section of 450 barns for $^{235}$U, calculate the average fuel burnup in MWD/T.