

<ul style="list-style-type: none">What mass of isotope would be initially required if a medical procedure needs 2.0 mg of ^{99m}Tc exactly 50 hours later? The half life of ^{99m}Tc is 6.0 hours.	Marks 2
<ul style="list-style-type: none">Comment on the stability of the following nuclides, and the type of radioactive decay (if any) that they undergo.	3
$^{18}_{10}\text{Ne}$	
$^{32}_{16}\text{S}$	
$^{236}_{90}\text{Th}$	