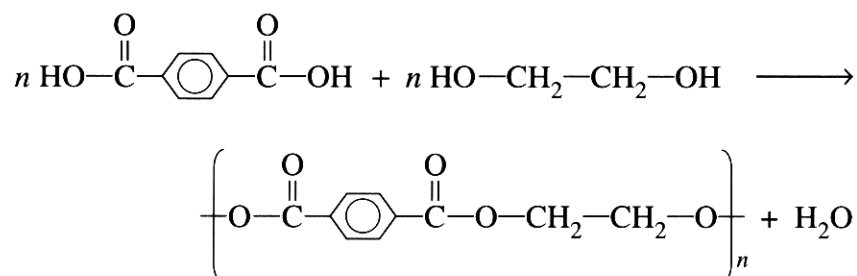


## Question 18 (6 marks)

(a) Name the type of polymerisation shown in the following reaction:

1



.....  
 Condensation  
 .....

(b) Assess current developments in the use of biopolymers.

5

.....  
 Cellulose has been identified as a <sup>basic building -</sup> ~~key starting~~ block for bio-polymers as it contains the carbon chain structure required to make a biopolymer.  
 Biomass is used at present in the creation of biopolymers. Biomass makes up 50% of all living matter, so is readily available. The creation of biopolymers, such as polylactide (PLA) is at the moment still a very expensive process, in comparison to taking them from fossil fuels, however it is something which is very necessary if we are to have a sustainable future. The ability to use cellulose, and to open the basic carbon chain structure is very important, and it ~~was~~ will benefit the environment, however it is still very expensive, so not really commercially viable to produce biopolymers.