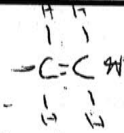
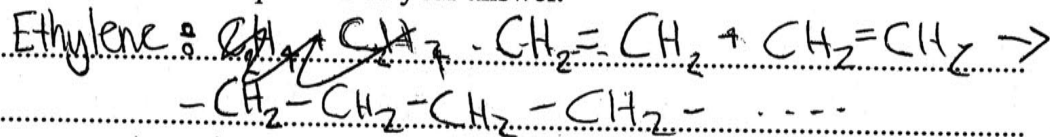


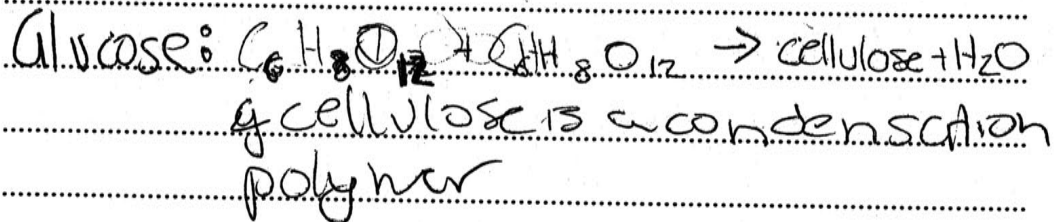
Question 30 (8 marks)



- (a) Compare the process of polymerisation of ethylene and glucose. Include relevant chemical equations in your answer. 3



poly ethene is an addition polymer



Question 30 continues on page 22

Question 30 (continued)

- (b) Explain the relationship between the structures and properties of THREE different polymers from ethylene and glucose, and their uses. 5

cellulose: wood, fibre, paper, cotton, clothing, packaging  
not water soluble  
Indigestible by humans  
Forms fairly rigid but flexible  
structures strong

HDPE: Linear not branching chains give it a hard clear & rigid structure, used for packaging, CD covers, toys etc.  
LDPE: Branched chains gives it a soft flexible structure used for freezer bags, some containers etc.

End of Question 30