**EXTENDED RESPONSE 3 MUTATIONS AND GENE POOLS (Cystic Fibrosis)**

**IN CLASS EXTENDED ANSWER TOTAL 20M**

1. What is Cystic Fibrosis (CF) and what are the symptoms? 2m
2. Where is the gene for CF found? 1m
3. Is CF Autosomal dominant/recessive and state the phenotypes for: -
4. Homozygous dominant
5. Heterozygous
6. Homozygous recessive

4m

1. The incidence of CF in Europe is abnormally high in comparison with other parts of the world.

Describe the difference between Mutation, Migration, Natural Selection and Genetic Drift as mechanisms that might explain for this increase. 8m

1. Which of the above is most favoured and why? 2m
2. Does the Heterozygous form have any survival advantage and if so what is the advantage? 2m
3. What are the treatments for this disease? 1/2m
4. What cures are there for this disease? 1/2m

Total B 20m

Research component A 20m

Grand Total 40m