**Year 12 ATAR Human Biology**

**ATHBY 2021**

**Task 7: Extended Response**

**Conditions Total: \_\_\_ / 25**

Time for task: 30 minutes

**Part A:** You have one week to research the topic and complete notes. (5 marks)

You **may not** use these notes for Part B.

**Part B:** 30 minutes for in class validation – examination-style extended answer question.

**Task weighting: 4%**

**Part B: In-class assessment 20 marks**

Answer each part of the following question on the lined paper provided.

Responses could include clearly labelled tables and graphs, clearly labelled diagrams with explanatory notes, lists of points with linking sentences and annotated flow diagrams with introductory notes.

There are many diseases that affect the ability to breathe normally. One of these is cystic fibrosis. This is a genetic disease, one symptom of which is excess mucous in the lungs that causes breathing difficulties. Recently there has been much discussion and trialling of treatments involving gene therapy and cell replacement therapy for cystic fibrosis.

a) Discuss two ethical implications that may arise due to genetic screening of all new born babies in Australia. (5 marks)

b) Describe the steps involved in recombinant DNA technology; and explain how it is being used to develop gene therapy treatments for inherited diseases. (15 marks)