Summer Examinations 2015

SLS300215N

MODULE TITLE  Integrated Medical Genetics
LEVEL  Six
TIME ALLOWED  Two hours

Instructions to students:

- Please enter your student number **not** your name on all answer booklets.
- Answer **two** out of four questions.
- All questions are **equally** weighted.
- Begin each answer in a separate booklet; label each booklet clearly with the number of the question you are answering.
- Neither books nor notes may be taken into the examination.
- You may not remove this examination paper from the examination room. For all purposes the examination paper remains the property of The University of Northampton.

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ANSWER TWO OF THE FOLLOWING QUESTIONS:

1. Discuss possible mechanisms whereby proto-oncogenes can be activated to oncogenes.

2. Discuss evidence for a genetic basis to multiple sclerosis.

3. Discuss how would you design and conduct an experiment to establish whether genetic variation is important in the predisposition to autism. In constructing your answer assume that you have unlimited access to any resources that you would need. You should also comment on any difficulties that you might expect to encounter and how you might overcome them.

4. Discuss how epigenetic mechanisms regulate gene expression and provide at least two examples where abnormal epigenetic regulation can lead to disease.