**ST MARY’S UNIVERSITY**

**TWICKENHAM, LONDON**

BSc Health & Exercise Science Degree Examination students registered for

Level **FIVE**

Title**: Exercise Physiology and Activity across the Lifespan**

Code: **HEP5014**

Semester: **ONE**

Date: **January 15th 2019**

Time: **9:30 – 11:30AM**

TIME ALLOWED: **TWO** HOURS

Please answer any **FIVE** questions in the answer booklet provided:

1. Describe a piece of epidemiological research which provides evidence that regular physical activity can reduce the risk of developing cardiovascular disease. **(20 marks)**
2. Discuss how physical activity patterns can affect metabolic flexibility. **(20 marks)**
3. Provide a physiological explanation why skeletal muscle strength declines during ageing, particularly in adults aged >40 years. **(20 marks)**
4. Provide a physiological explanation why a sedentary, deconditioned adult may perceive the first three minutes of an aerobic activity, such as jogging, to be more physically challenging than the next three minutes. **(20 marks)**
5. According to research, explain why physical activity is recommended for the maintenance of skeletal health? **(20 marks)**
6. Explain the key physiological adaptations that enable skeletal muscle strength to improve without significant changes in muscle mass (hypertrophy). **(20 marks)**
7. Discuss how the cardiovascular system of a trained endurance athlete would differ to that of a sedentary individual. **(20 marks)**
8. Historically, females who were pregnant were advised to refrain from exercise. According to research, why has this view changed? **(20 marks)**

**END OF EXAMINATION**