**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/HEP5015** Semester: **One**

Date: **7th January, 2020** Time: **9:30 am – 11:30 am**

TIME ALLOWED: **TWO** HOURS

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

1. Discuss if it there are any benefits to prescribing physical activity below the government guidelines. Use research to support your answer. (20 marks)
2. Discuss the fundamental chronic physiological adaptations that enhance endurance performance? (20 marks)
3. Define ‘metabolic flexibility’ and discuss how obesity can affect metabolic flexibility. (20 marks)
4. Provide a physiological explanation why skeletal muscle strength declines during ageing, particularly in adults aged >40 years. (20 marks)
5. Explain the key physiological adaptations that enable skeletal muscle strength to improve without significant changes in muscle mass (hypertrophy). (20 marks)
6. Discuss why women above 50 years of age are more likely to experience bone fractures. (20 marks)
7. Historically, females who were pregnant were advised to refrain from exercise. According to research, why has this position changed? (20 marks)
8. Explain how chronic exercise can influence connective tissue health. (20 marks)

**END OF EXAMINATION**