BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT: SPORTS SCIENCE
MASTER OF SCIENCE DEGREE IN SPORTS SCIENCE
SS 502: PHYSIOLOGY AND BIOCHEMISTRY OF PHYSICAL ACTIVITY

DURATION: 3 HOURS   TOTAL MARKS: 100

INSTRUCTIONS TO CANDIDATES

Section A is **compulsory**.

Answer **three** questions from Section B.   EXAM 1   NOV 2014

Section A

1. Calculate the work and power output during 1 minute of cycle ergometer exercise, given the following: **40 Marks**
   Resistance of the flywheel = 3.0 kg
   Cranking speed = 50 rpm
   Distance travelled per revolution = 6 metres

Section B.

2. Calculate the total amount of work performed in 5 minutes of exercise on the cycle ergometer, given the following: **20 Marks**
   Resistance of the flywheel = 25 N
   Cranking speed = 60 rpm
   Distance travelled per revolution = 6 metres

3. Identify the primary changes that occur in the skeletal muscle fibres in response to resistance training.   **20 Marks**

4. Explain why concurrent strength and endurance training can impair strength gains.   **20 Marks**

5. The energy source used in each exercise is very important for planning the training load. Describe how each energy system could be trained most efficiently.   **20 Marks**

6. A 400-meter runner is experiencing a drop in performance at the end of the race. From a biochemical point of view explain, where you would direct the training.   **20 Marks**

END OF PAPER