



## Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
I V 0 5 9 G	2 0 0 0	2 0 1 8 - 0 6 - 0 9
Kursnamn	Idrottsvetenskap GR (A), Vetenskap och praktik inom skids...	
Provnamn	Tenta och rapport	
Ort	Östersund	
Termin	V18	
Ämne	Idrottsvetenskap	

140596



**Mittuniversitetet**

MID SWEDEN UNIVERSITY

Department of Health Science

Code: \_\_\_\_\_

## WRITTEN EXAM II

VT18

**Sport Science GR(A), Science and practice in ski sports 7,5hp**

**Date:** 2018-06-09

**Time:** 5 hours

**Maximal points:** 45 p

**Equipment:** Dictionary, English – any language

To pass the exam you need to have at least **27 points (60%)**. The grade for the exam is pass or fail (G or U).

**Result:** \_\_\_\_\_ points = Pass Fail

### Instructions to the student:

- Answer the questions on separate papers. You can answer more than one question at each paper if you have the space. Remember to write your special code and the number of the question on all papers.
- Take it easy and think about what we are actually asking about.

### Responsible for the course:

- Malin Jonsson, 070-6261990

**GOOD LUCK !!!**

## Cross-country skiing (15 p)

1. In cross-country skiing, athletes compete in a variety of events. Name the different categories and the range of distances for each category for men and women, respectively. (3p)
2. In cross-country skiing, it is recommended to use different kinds of equipment (skis, poles, boots) dependent on the technique. What are the recommended ski and pole lengths in relation to body height in classical and skate? (1p)
3. Cross-country skiing is a physiological demanding endurance sport. How does the physiological (aerobic power, anaerobic capacity) and physical (height, weight) of distance and sprint skiers differ? (2p)
4. Briefly, describe the history of cross-country skiing. (3p)
5. In both classic and skate, we use different gears depending on speed, and gradient of the terrain. Choose one technique and make an illustration to show the range of speed each gear is used at. (3p)
6. Briefly describe the training characteristics of elite cross-country skiers (total training volume per year, number of sessions, intensity distribution, activity distribution). (3p)

## Biathlon (15 p)

7. In biathlon you are competing both in individual competitions (4 different types of competitions) and in relays (3 different types of competition). Describe one of the individual disciplines briefly (starting type, number of shootings, shooting positions, number of shots at each shooting, number of skiing laps, length of the skiing laps, type of penalty...) (3 p)
8. In biathlon, you need to carry your rifle at the back during the whole competition.
  - a) What is the minimum weight of the rifle in biathlon according to the rules? (1 p)
  - b) What physiological and biomechanical responses do we get from carrying a rifle in biathlon (compare skiing with and without rifle at the same speed) (3 p)
9. There are a lot of rules in biathlon to make the competitions as fair as possible.
  - a) What is the distance between the targets and the shooting range? (1 p)
  - b) What is the minimum pressure that your trigger must have? (1 p)
10. The shooting performance is a very important part of biathlon.
  - a) Name two factors that are important for the shooting performance in biathlon (2 p)
  - b) How big is diameter of the target (the "hitting area") in prone and standing shooting position? (1 p)
11. Name two factors that are important for performance in biathlon and describe briefly why they are important (physiological, biomechanical, psychological) (3 p)

### **Alpine skiing (15 p)**

12. Describe the history of alpine skiing briefly (3 p)
13. Which are the four main alpine skiing events? (2 p)
14. Describe the different external forces that interfere with the skiers possibilities to generate speed and momentum. (3 p).
15. Describe shortly the different phases of the turn. (4 p)
16. Why do you want different radius on giant slalom skies versus slalom skies? (2 p)
17. Which method can be used to evaluate skier's energy demand during alpine skiing? (1 p)