



Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
I V 0 5 6 G	3 0 0 0	2 0 1 8 - 0 8 - 2 8
Kursnamn	Idrottsvetenskap GR (B), Nutrition med inriktning mot idrott	
Provnamn	Moment 3 Tentamen	
Ort	Östersund	
Termin	H18	
Ämne	Idrottsvetenskap	



Mittuniversitetet
MID SWEDEN UNIVERSITY

Kodnr: _____

RE-EXAM 2, 4HP

VT18

IDROTTSVETENSKAP GR (B) NUTRITION WITH A FOCUS ON SPORTS IV056G

Date: 2018-08-28

Time: 5 hours

Permitted items: English dictionary (English-Swedish and/or English-German)

Maximum points: 60

You must score at least 50% on each section in order to pass the whole exam.

A – Outstanding (90%)	54 p
B – Very good (80%)	48 p
C – Good (70%)	42 p
D – Satisfactory (65%)	39 p
E – Pass (60%)	36 p
Fx – Fail; oral re-exam (57-60%)	34-36 p
F – Fail (< 57%)	< 34 p

Instructions to students:

- Answer ALL questions
- Use a separate sheet of paper for each new topic (e.g. 'Digestion', 'Macronutrients' and the long question)
- Remember to write your student number on every piece of paper that you use
- Write legibly and concisely
- Take your time and think about each question carefully

Course Leader: Helen Hanstock, 073 060 22 02 / 010 142 8124

GOOD LUCK!

SECTION 1 – SHORT QUESTIONS

ANSWER ALL QUESTIONS

DIGESTION (10p)

ANSWER IN ENGLISH OR SWEDISH

1. Define **mastication**. (1p)
2. Define **secretion**. (1p)
3. Describe the **structure and function of two organs** in the human GI system. Include how the structure of the organ's tissue is related to the function. (6p)
4. GI activity is regulated in three phases: called the cephalic, gastric and intestinal phases.
What happens in the gastric phase? (2p)

MACRONUTRIENTS (10p)

ANSWER IN ENGLISH OR SWEDISH

5. Describe four biological functions of carbohydrates in the body. (2 p)
6. Describe the differences between monosaccharides, disaccharides and polysaccharides. (2 p)
7. Describe why it can be advantageous to increase the relative protein intake in the diet if an athlete would like to reduce body mass. (2 p)
8. Describe why a food with a high glycemic index immediately prior to endurance exercise will have a more negative effect on fat oxidation rates during the initial phase of exercise compared to a low glycemic index food. (2 p)
9. Describe the two main functions of HDL and LDL . (2 p)

VITAMINS, MINERALS & SUPPLEMENTS (10p)

ANSWER IN ENGLISH OR SWEDISH

10. What strategies can an athlete use to make sure that their diet fulfils their vitamin and mineral requirements? (2p)
11. List all the vitamins and minerals listed as 'Class A' supplements by the Australian Institute of Sport Nutritional Supplement classification system. What does 'Class A' mean? (3p)
12. For **one** mineral, give the following information:
- a. Two functions in the body (2p)
 - b. Two food sources (1p)
 - c. Recommended intake (1p)
 - d. Biological consequences/effects of deficiency (1p)

HYDRATION (10 p)

ANSWER IN ENGLISH OR SWEDISH

13. Describe two methods of measuring/assessing hydration and give one advantage and one disadvantage for each. (4p)

14. Compare the effects of dehydration on performance in strength vs. endurance events, and give a brief physiological explanation of why. (4p)

15. Explain what we mean by 'ad libitum' drinking. (1p)

16. Define hyponatremia. (1p)

SECTION 2 – LONG QUESTION

ANSWER IN SWEDISH OR ENGLISH

17. For an extreme distance event like the 220 km Nordenskiöldsløppet race in cross-country skiing a frequent intake of a high concentration sports drink is most likely advantageous to performance. Explain why it is important and give an approximate example which type of carbohydrates the sports drink should contain as well as which level of carbohydrate concentration that may be favorable. Do also explain how frequently and how much the athlete should consume during the race. The athlete is using a Camelback* and can consume as much sports-drink as he/she wants during the race as he/she can get new Camelbacks from the service team along the race course. Consider also the athlete's overall fluid requirements for the race, and whether the sports drink in the Camelback alone will be sufficient to fulfil these requirements. Include numerical examples of volumes, concentrations etc. for either a 65kg female or 80kg male athlete.

Use evidence from the research literature to support your answer.

(20 p)

*A Camelback is a specially designed backpack that can be filled up with a fluid like a sports drink.