



HØGSKOLEN
I SØR-TRØNDELAG

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AVDELING FOR MAT- OG MEDISINSK TEKNOLOGI

Kandidatnr:						
Eksamensdato:	8. desember					
Varighet:	09:00 til 13:00					
Fagnummer:	FO 211N					
Fagnavn:	Nutrition					
Klasse(r):	2N					
Studiepoeng:	6					
Faglærer(e):	Merete Askim					
Hjelpemidler:	Calculator					
Oppgavesettet består av:	2 sider + forside					
Vedlegg består av:	ingen					
Merknad:	The teacher goes a visit ca eleven o'clock.					
Lykke til!						

The Food Composition Table is not allowed, just the calculator.
Please, write only on every other line, it is then easier to read.

A. The body

1. What are the functions of the pancreas saliva?
2. Make a drawing of the intestinal cell; explain its function in the absorption of lactose and B-vitamins.
3. Explain how fiber may give us useful energy.

B. Diet and lifestyle diseases

4. Describe the difference between "Recommended Intake", "Upper level for intake" and "Recommended diet".
5. Indicate the recommended distribution of energy %, and the recommended intake of fiber and salt.
6. It's been claimed that "We should all eat as diabetics do" Indicate the common diet recommendations.

7. The Vegan diet is popular, but not suitable for everyone. Why not?

C. Fat

8. Which fatty acids are essential? Draw the chemical formula and indicate important foods which provide these fatty acids.

9. Why do we need essential fatty acids?

10. Explain why there are no recommendations for daily intake of cholesterol.

11. Explain why saturated fat and *trans*-fat are declared together in the Food Composition Table and on food declarations.

D. Energy

12. Find the E% in 1 portion of caramel cream:

3,5g protein, 11,3g fat, 18,9g carbohydrate, 12,4g added sugar

If you do not remember the actual kJ/g (kcal/g), then choose random values in order to show that you know the calculation method.

D. Carbohydrates

13. Discuss how the processing of food may impact the glycemic index (GI). [Select one food item, then evaluate its condition from raw ingredient to various stages of processed product.]

14. Fiber [definition, types, health effects, important sources and recommended daily intake].

15. It is important that sports drinks have the right osmolality. Explain osmolality and explain which carbohydrates sports drinks should contain.

E. Proteins

16. Explain the meaning of protein (nitrogen) balance (NB). Show how NB varies in the different stages of life, energy balance and during disease.

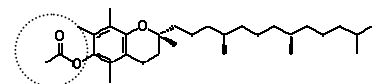
17. A person weighs 75 kg, eats 8 MJ/day with 12 E% from protein. Is he getting enough protein?

F. Vitamins and minerals

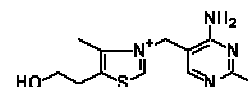
18. Vitamin K [solubility, variants, function, important foods and deficiencies].

19. Is tocopherylacetat an antioxidant for food and / or a vitamin? Explain.

The acetat group is marked with a circle.



20. Thiamin [solubility, function, important foods, stability during processing, recommended intake].



21. Iron [function, sources, absorption, recommended intake, deficiencies and toxicity].

22. § 8. Declaration of vitamins and minerals

Mention and declaration is only legal if the vitamins and/or minerals exist in the product in considerable amounts, which is defined as at least 15 % of the recommended value given pr 100g or pr 100 ml, or per pack, if the pack contains one portion.

<http://www.lovdata.no/cgi-wift/lcles?doc=/sf/sf/sf-19931221-1386.html#6>

A supplier has declared the nutrients in a vegetable product as 100 g; 100 g is more than 1 portion.

Iron 0,9 mg Vitamin A 267 RE Riboflavin 0,10 mg

Calcium 25 mg *Thiamin* 0,08 mg *Vitamin C* 15 mg

Estimate if it is legal to declare the nutrients given in *italics* according to § 8. Compare with the recommended intake (this is part of the syllabus). Give the recommended intake and a calculation of one estimation.

G Actual

23. Many young people choose to omit milk from their diet. Which nutrients may they miss when not drinking milk? Which life style disease will they be at risk of developing at a later stage?
24. Why is allergy hygienics important to food processing?
25. Antioxidants [function, sources, give example of nutrients and non-nutrients and health effects).
26. From January 1, bread and flour may be declared with a voluntary label which indicates the completeness ("level of whole-grain"). Why?
27. Stanols may now be added to some foods. Which foods and why?



God jul
og
godt nyttår !
Merete