



## Försättsblad Provs Original

Kurskod	Provkod	Tentamensdatum
I V 0 5 5 G	1 0 0 0	2 0 1 8 - 0 5 - 3 1
Kursnamn	Idrottsvetenskap GR (A), Anatomi, fysiologi och idrottsfy...	
Provnamn	Moment 1	
Ort	Östersund	
Termin	V18	
Ämne	Idrottsvetenskap	



**Mittuniversitetet**  
MID SWEDEN UNIVERSITY

Kodnr: \_\_\_\_\_

# OMTENTA 2

## MOMENT 1 (5HP)

Idrottsvetenskap GR (A)  
Anatomi, fysiologi och idrottsfysiologi 30hp, IV055G

**Datum:** 2018-05-31

**Tid:** 3 timmar

**Hjälpmedel:** Engelsk-Svensk lexicon (eller lexicon mellan Engelska/Svenska och hemspråk), miniräknare.

**Maxpoäng:** 60p

A – Framstående (> 90%)	> 54 p
B – Mycket bra (80%)	48 p
C – Bra (70%)	42 p
D – Tillfredställande (65%)	39 p
E – Tillräcklig (60%)	36 p
Fx – Otillräcklig med komplettering (57-60%)	34 p
F – Otillräcklig	<34p

### Instruktioner:

- Svara frågor från varje ämne på ett separat lösblad, men tänk på att du INTE får skriva på baksidan av det!
- Skriv ditt kodnummer på varje lösblad samt din tenta
- Ta det lugnt och läs frågorna noga
- Observera att era svar kan ges på Svenska eller Engelska

**Kursansvarig:** Helen Hanstock, 010 142 81 24

**LYCKA TILL!**



5. The picture illustrates **two types of molecule**: monomers (small molecules or subunits) and polymers (long-chain molecules made up of many monomers).



Monomers



Polymer

- a. Give **an example** of a polymer and its monomer in the body.
- b. What kind of chemical reaction is used to **break** the bonds between monomers?  
(2p)

## CELL OCH VÄVNAD

Lärare: Carina Edling. Max 14p.

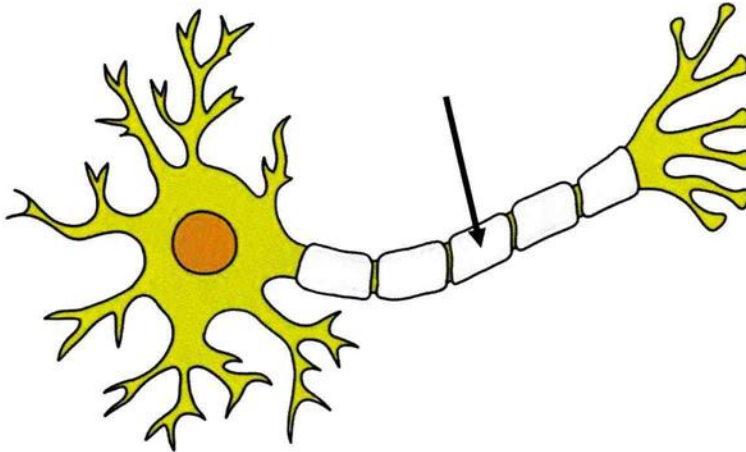
6. Beskriv skillnaden mellan hydrofil och hydrofob när det kommer till fosfolipiderna. (2p)
7. Nämn 3 typer av membranproteiner. (3p)
8. Ge exempel på två ämnen som kan transporteras genom cellmembranet genom diffusion? (2p)
9. Beskriv endocytos. (3p)
10. Ge minst 4 exempel på hudens funktioner. (4p)

## NERVSYSTEMET

Lärare: Helen Hanstock. Max 17p.

11. The picture below shows grey-white cells surrounding the axon of a neuron.

- What is the name of these cells? (1p)
- What is their **function**? (1p)
- How does the presence of these cells affect the speed that the action potential travels along the neuron? Explain your answer. (1p)



12. This question refers to the **resting membrane potential**.

- What is the membrane potential of a nerve cell membrane at rest? Include units in your answer. (1p)
- Which membrane protein helps to maintain the resting membrane potential? (1p)
- Why do we need the resting membrane potential? (1p)

13. Describe how an **electrical signal is carried across a synapse (synaptic transmission)**. Think carefully about the sequence of events, and provide as much detail as you can. (5p)

14. Describe the pathway of the **stretch (sträckreflexen)** and give an example of when it might happen. (3p)

15. How many pairs of spinal nerves do we have in the body? (1p)

16. Explain the overall function of the **sympathetic nervous system** and give examples of how sympathetic activation might affect two organ systems. (2p)

### SINNENA

Lärare: Helen Hanstock. Max 10p.

17. Describe in detail one of the following sensory systems: **hearing, balance or vision**. Describe in your answer: (6p)
- The name, structure and function of specialized sensory receptor cells involved
  - a. The type of stimulus, and how the stimulus is detected and 'transduced' (*sensorisk transduktion* - converted into signals that the nervous system can understand).
  - b. Where in the brain signals from the receptor cells are received, and briefly how they are processed and interpreted.
18. Describe two types of receptor in the **skin**. Describe their structure, receptive field size and what kind of stimulus they respond to. (4p)

## ENDOKRINA SYSTEMET

Lärare: Helen Hanstock. Max 12p.

19. Describe two hormones that may help to **regulate metabolism or metabolic processes** (2p)
20. Describe the structure of the **posterior pituitary** (hypofysens baklob). Which hormones are secreted and what are their functions? (3p)
21. The **adrenal glands (*binjurarna*)** are made up of two main layers of tissue.
- What is the name of each layer, and which hormones are secreted by each layer? (4p)
  - Describe how the secretion of one of these hormones is **regulated** (include: stimulus, feedback (*återkoppling*), and details of any other hormones & glands (*körtlar*) involved in the pathway). (3p)