

NEGERI SEMBILAN 2019

biology essay question

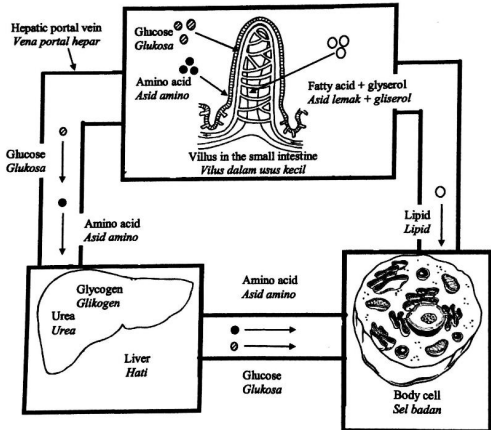
QUESTION 6

ASSIMILATION

AMINO ACIDS

GLUCOSE

- Excess glucose in the blood is converted to glycogen by insulin and stored in liver
- When glucose level in blood is low, glycogen is converted to glucose in the liver
- excess glucose is converted to lipid by liver
- In body cells, glucose is oxidised to release energy in cellular respiration

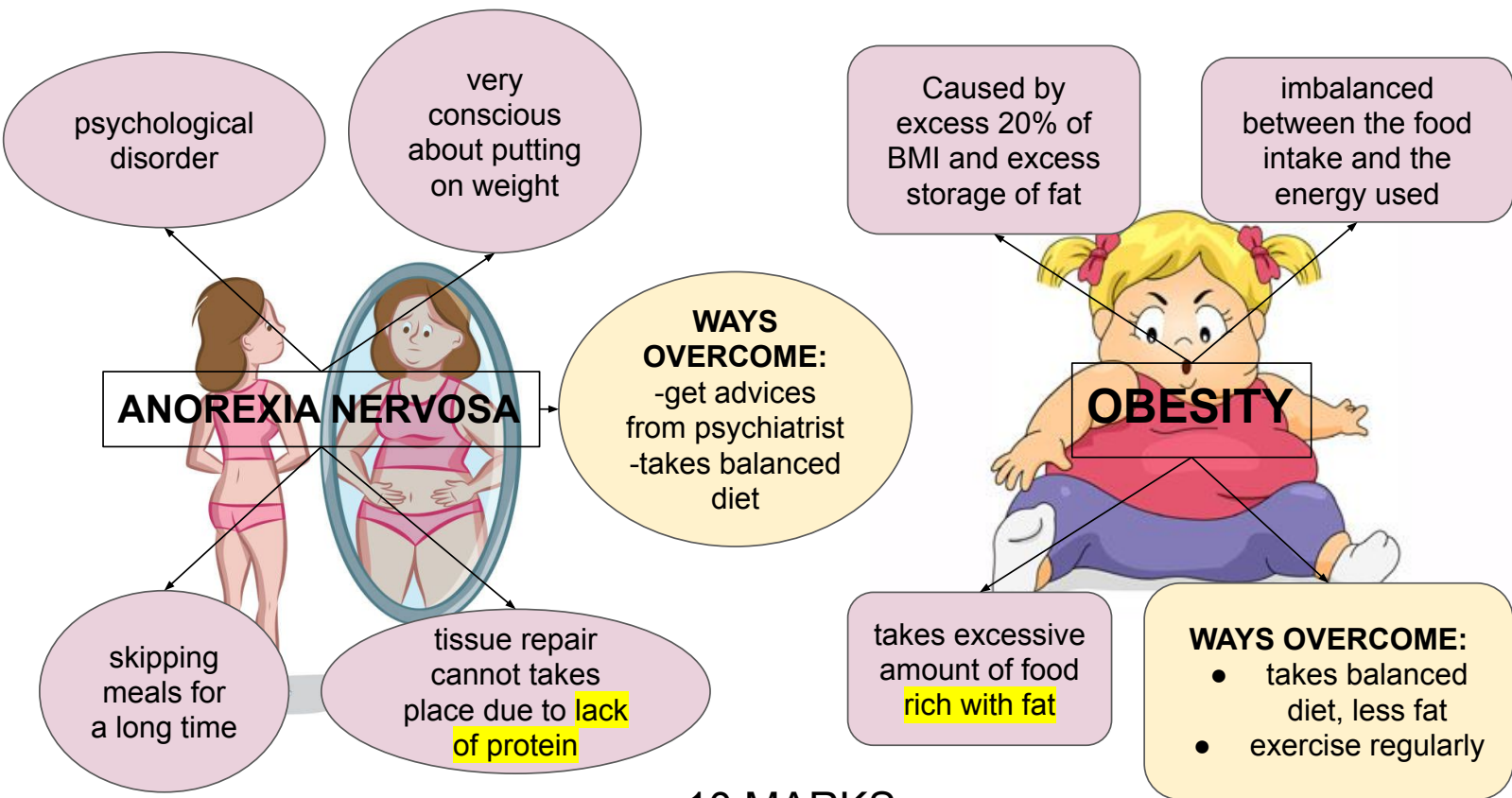


- Amino acids is used to synthesis protein in the liver
- Excess amino acid undergo deamination to produce urea
- Urea is eliminated by kidney
- Amino acid is used to synthesis enzymes, antibodies, hormones, new protoplasm and repair body tissues in body cell

LIPIDS

- Excess lipid is stored in adipose tissue
- Phospholipid and cholesterol make up the plasma membrane

10 MARKS



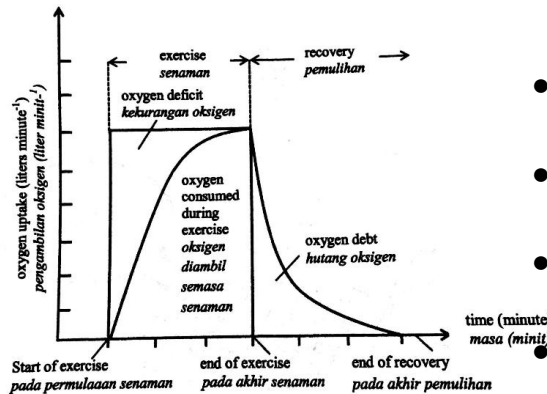
10 MARKS

QUESTION 7

CAUSE OF OXYGEN DEBT TO OCCUR?

CAUSE

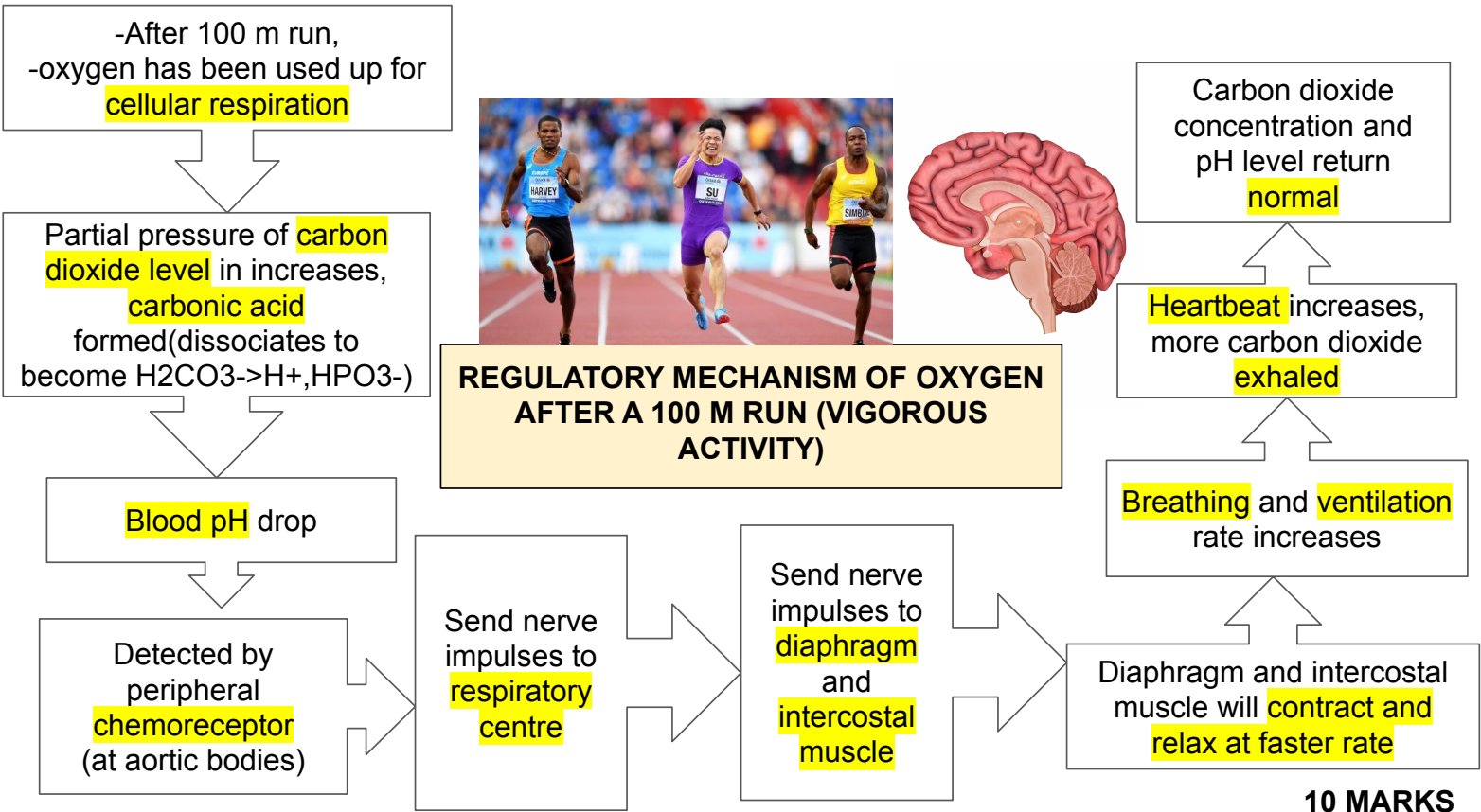
- During vigorous exercise, the intake of oxygen is not able to meet the demands of the cell
- the muscles are in state of oxygen deficiency
- glucose molecules are oxidised completely
- so, accumulation of lactic acid completely



HOW TO OVERCOME

- He needs to breathe in deep and fast
- in order to inhale more oxygen
- to oxidised lactic acid completely
- oxygen debt is paid

6 MARKS



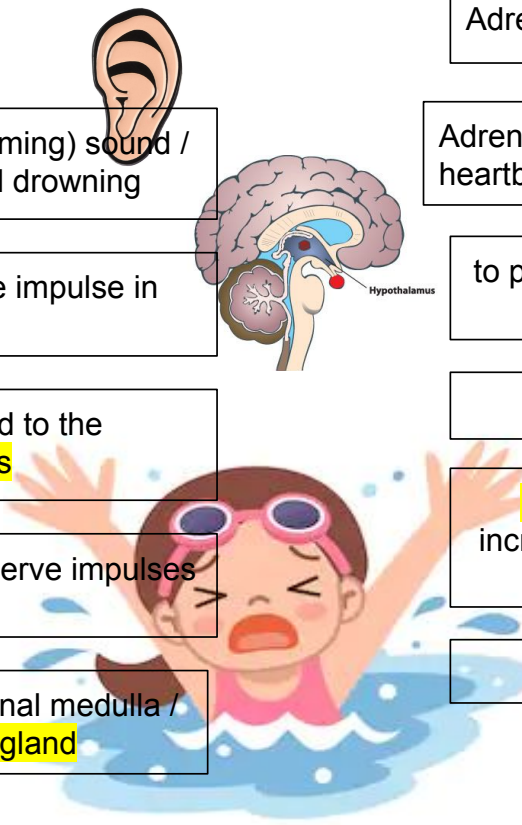
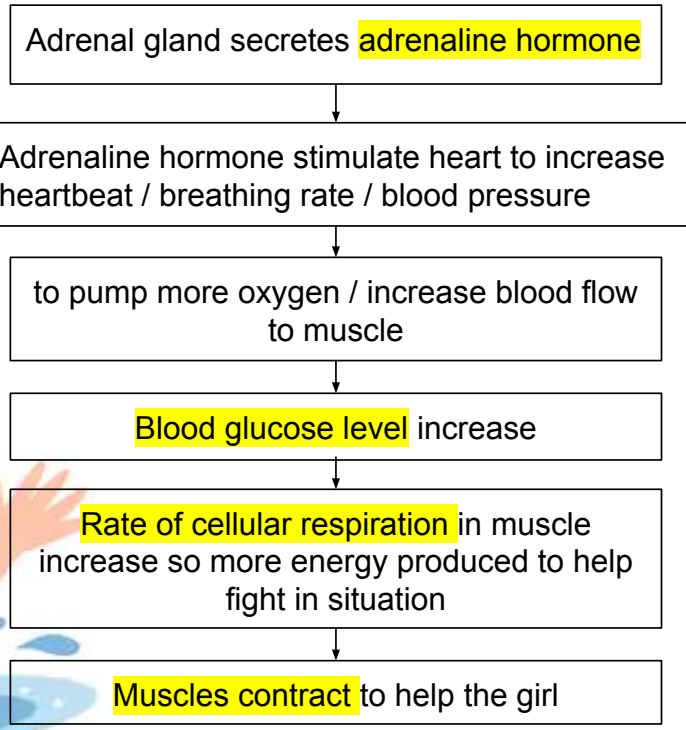
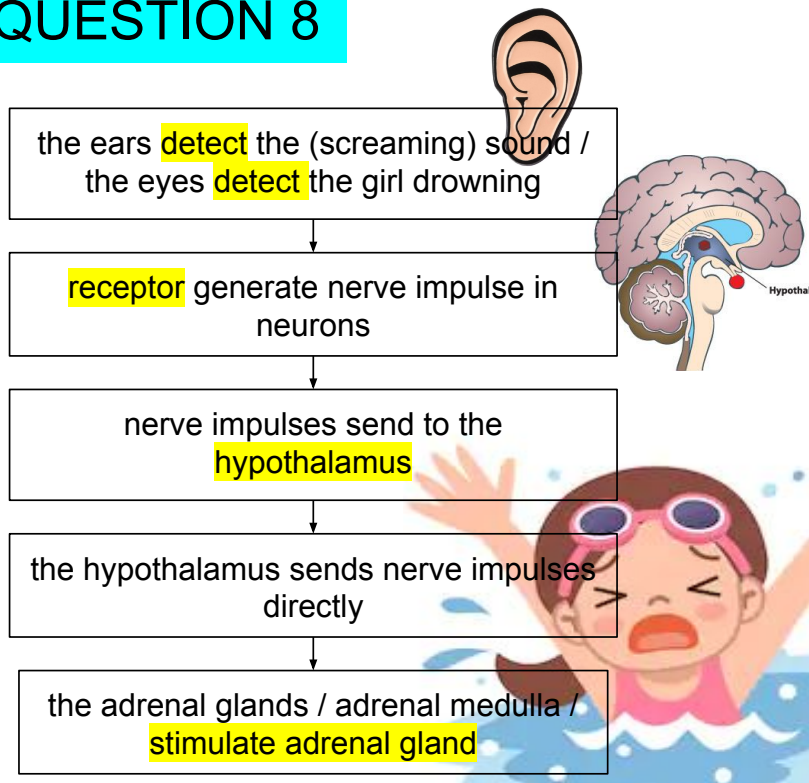
10 MARKS

WHY BREATHING RATE OF A PERSON DIFFERENT DURING RESTING AND DURING VIGOROUS ACTIVITY ?

- When doing vigorous activities, breathing rate is higher than during resting
- so, **more** oxygen is needed
- to oxidised **more** glucose
- to produce **more** energy
- for muscles contractions

4 MARKS

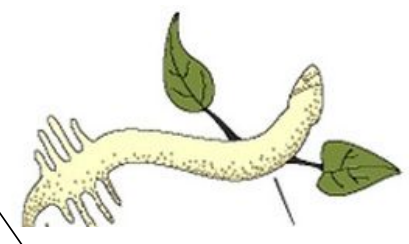
QUESTION 8



10 MARKS

- The plant hormones is **auxin**.
- Auxins are produced at the **shoot tips and root tips**
- Auxins diffuse to the **lower side** of shoot and roots due to pull of **gravity**
- More auxins **accumulate** on the lower side of the shoot tips and root tips

- In root, growth rate of upper side is higher than lower side
- as a result the root grow and bend downwards
- the root showing **positive geotropism**.



AUXIN

- High concentration of auxin **inhibits cell elongation at root tips**
- Low concentration of auxins at upper side of the root
- Stimulate the cell elongation / cell elongates faster

- In shoot, growth rate of lower side is higher than upper side
- as a result, the shoot tips grow and **bend upwards**
- the shoot tips showing **negative geotropism**.

HOW THE PLANT HORMONE CAUSES THE RESPONSE OF SHOOT TIPS AND ROOT TIPS

10 MARKS

QUESTION 9

Adaptation of mangrove tree


10 MARKS

Problems	Adaptations
<ul style="list-style-type: none"> Soft muddy soil strong coastal winds pose supports problems 	<ul style="list-style-type: none"> <i>Avicennia sp.</i> highly branched cable roots <i>Rhizophora sp.</i> Have prop roots Also known as aerial roots to anchor the plants onto the muddy soil
<ul style="list-style-type: none"> waterlogged conditions: low amount of O₂/anaerobic environment 	<ul style="list-style-type: none"> Has breathing roots called pneumatophores Has numerous pores through which gaseous exchanges take place
<ul style="list-style-type: none"> direct exposure to sun: high rate transpiration 	<ul style="list-style-type: none"> Leaves are covered by a thick layer of cuticle To reduce transpiration during hot day
<ul style="list-style-type: none"> high salinity sea water: water in the soil is hypertonic to cell root 	<ul style="list-style-type: none"> Cell sap in the root cells has a higher osmotic pressure than soil water Roots do not lose water by osmosis
<ul style="list-style-type: none"> seeds fall onto ground die: submerged in waterlogged soil 	<ul style="list-style-type: none"> Mangrove seeds are able to germinate while still attached to mother plant : viviparity

EFFECTS OF GLASS BUILDINGS CITY AND POWER PLANTS TO ENVIRONMENT

- both situation will cause thermal pollution
- It occur when excessive heat is released to surrounding
- Or increase in temperature of water source



Buildings	Power plant
<ul style="list-style-type: none"> The sun radiant energy is reflected back by the glass surface towards the sky It will cause atmospheric temperature increase 	<ul style="list-style-type: none"> power plant is built near the river the hot water from power plant is channeled to the river this cause temperature increase the amount of dissolved oxygen decreases aquatic organism / fish die The rise in temperature encourage rapid growth of the algae (algal bloom) Decomposition of organic matter increase the BOD of water Many aquatic organism will die due suffocation

10 MARKS