

Unofficial Markscheme 2017 Biology

1) Parts of the lung

Trachea, bronchi, bronchioles

How can a lung be described as a tree

Branches out smaller and smaller and aveoli are like leaves

How do the lungs move when a person breathes in

Intercostal & diaphragm contract, pressure lower drawing air in

Why is smoking banned in public buildings Enclosed space,

lots of people, emphysema, cancer, CO, tar

Why are children harmed more by smoke

More fragile, less developed lungs easily damaged

2) table yes/no

Example: No No

Starch+Maltase: No No

Starch+Glucose: No Yes

Starch+boiled amylase: No No

How does the volume change

Increases: osmosis high concentration to low concentration through a semi permeable membrane

Test for glucose

Benedicts solution dark to brick red

How would you use this equipment for bile/lipids

Place in visking tube Test water for glycerol/fatty acids

3) Genetic tree questions

8,

4

,25%

Define 'mutation'

Change in the genetic code

Example of good mutation

Antibiotic resistance, giraffe long neck etc

4) father determines sex

Father has XY, mother has XX

Man A vs B

More sperm, healthier sperm

Smokers and non smokers

graph 45% of 55m=24750000

Why are smokers less fertile using the graph

Have less moving sperm, more mutated

5) photosynthesis equation



Why are the leaves darker More chlorophyll

so they can absorb more sunlight

Why are the leaves thinner

So light can penetrate to other layers of leaves

Morning vs night rate of photosynthesis Morning = colder, less light, slower

Opposite for afternoon

Describe a test to compare the rate of photosynthesis for 2 plants

Destarch the plants then test after 30 mins in light with iodine?

6) quadrat Percentages tables 8,22% 4,11%

Large area

Use lots of quadrats Find average of plantains Multiply by area of field

7) young plants in mineral solutions

Describe pattern in both Plants in

all minerals grew to 163mm Plants without nitrate grew to 37-38mm began to shrink

Why was air bubbled through

More oxygen=respiration=more energy for active transport

Why was it covered with cardboard

Mimic underground conditions

8) draw a graph: generation/cloning

Describe pattern

More older people supported cloning

Using a named example, explain cloning

Dolly the sheep, mature udder cell into enucleated cell, implanted into uterus of another sheep

9) Label motor neurone

Nucleus, axon

Describe role in the body

Connects relay neurone to muscle/effector through electrical signals

3 Differences in hormonal and nervous

Slower/faster Small area/big area Electrical/chemical Nerves/Bloodstream

10) fill in blanks Chloroplasts, cellulose, starch, glycogen, consumer, chromosome, plasmid, photosynthesis, yoghurt, pneumonia

11) how do fungi digest logs Saprotrophic nutrition: secrete enzymes and absorb

Design experiment to find best fungicide

Take 50 logs Same weight, surface area, species Split into 5 groups Treat 4 groups with different fungicides, leave 10 as a control Leave all logs on forest floor: same conditions Wash to remove fungi Weigh and average groups to find loss in mass from each fungicide Compare results