BIOLOGY PAPER 1 MARKING SCHEME

1. a. Scales/scale

b. Most have cell wall made up of cultic (or cellulose) rej cellulose alone

- Most reproduce by means of spores/sporulation

- They are eukaryote/eukaryotic

- They are heterotrophy/ lack chloroplasts/some are saprophytic while others are parasitic

- have network of myphae/mycelia

- store food in form of glycogen or oil droplets (both must be mentioned)

- obtains food/nutrients\

- Shelter

1. a. Magnification of the object /image

b. Regulate amount of light (falling on the object on microscope) acc; adjust/control amount of light

1. a. a period of very minimal metabolic activity in an organism

b. i. epigeal

 ii. protection of the delicate plumule; pulls the cotyledons above the ground. Rej shoot

1. rej; cosmic rays as mutageous on chromosomes

Radiations such as alpha, gamma, beta UV and X-rays least one

rej; symbol a β and increases in temperature

* chemicals such as colchicine, phenols, bromate, pesticides at least one
* heavy metals eg lead mercury rej symbols
* viruses such as papilloma rej; mustard gas-effects gene mutation
1. a. i. Dicotyledonous rej dicotyledonous

 ii. Vascular bundles arranged in a ring/ presence of vascular

rej pith-not visible also found in the root of monocots

rej intra vascular bundle

b. (divides to) give rise to secondary thickening (growth/ increase in growth/ diameter/ width of stem/ gives rise to new/additional xylem and phloem tissues

1. a. site for protein synthesis

rej autolysis

NB must mention effects of lytic enzymes

b. break down worn out cell/organelles/ food materials

1. a. the placenta/takes the role of the ovum of producing the hormone progesterone (which maintains pregnancy)

b. Production of gametes/spermatozoa acc male gamete/male sex cells

Production progesterone hormone which maintains pregnancy acc male sex hormones

1. a. auxiliary/lateral buds spront/branches will be formed

b. decapitation removes the hormone/ouxins/IAA which is produced in the terminal bud/the stem tip; abseul/ remove of the hormone/auxins/IAA promote branch/development of auxiliary lateral buds.

1. a. In diffusion rej movement molecules) move from a highly conc. Region to a slowly conc. Region while in active transport molecules move from a lowly concentration region to a highly conc. Region on diffusion molecules move along conc. Gradient while in active transport molecules move against conc. Gradient. No energy is required in diffusion while energy is required in active transport/active requires carrier molecules while carrier molecule not required in diffusion

b. i. absorption of water from the soil by root hair cells/movement of water between plant cells/from cell to cell/opening one closing of stomata/support in herbaceous plant due to turgidity/feeding in insectivorous plant.

ii. Water reabsorption by blood capillaries from renal tubules/absorption of water in colour dicututary/canal/gut movement of water from cell to cell in animals

1. a. tracheole rej trachea/ tracheole system

b. moist for gases to dissolve (in solution) branched/ramify numerous tubes to increase surface area (for gaseous exchange)

1. Some wastes eg gases easily diffuse out . waste products are mainly made from carbohydrate and (NB; must mention some/most) hence are not harmful as proteineous materials/waste products are formed slowly/little accumulation of wasted/plants are leas active/some waste products (such as O2) and are usable-recycled some waste products are stored in non-toxic forms in leaves, flowers, fruits and old bark.
2. Rate of photosynthesis increases as CO2 concentration increases up to a certain level/optimum level and (vise versa)

NB; must mention up to optimum level or certain level

Acc Reverse: the rate of photosynthesis decreases with decreases in CO2 concentration until it stop rate of photosynthesis increases as the light intensity up to an optimum level and vice versa

1. a. rate of photosynthesis increases as CO2 concentration increases up to a certain level/optimum level and (vice versa)

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1. Pancreases releases glucagons to stimulate liver cells to convert stored glycogen to glucose; fat converted to glucose/reduces rate of respiration. Rej if source of glycogen is the liver.
2. large/powerful for cracking/breaking/crushing bone/slide past each other/ scissor- like for shearing/cutting/slicing (off) flesh/tendons/skin from bone
3. a.

|  |  |
| --- | --- |
| Arteries  | Veins  |
| Thick muscular wall | This muscular walls |
| No valves (expect at bases of pulmonary artery and aorta)  | Have valves |
| Narrow lumen | Wide lumen |

1. CO2 produced= 102

O2 used 145

 =0.703

b. fats

1. a. Fertilization- fusion of male and female nuclei gametes; to form a zygote rej fusion of gametes

b. One male nuclei fuses with egg to form a (diploid) zygote; while the other male nuclei fuses with (two) polar cells to form (triploid) endosperm nucleus;

1. a. More urine will be produced/diuresis

b. Lack of Anti-diuretic hormone/vasopressin therefore less water is reabsorbed

1. a. food web

b. Primary produce

c. the sun/sunlight

1. regulation of PH of the body

Distribution of heat around the body/regulates temperature

1. a. RNA

b. Has bas uracil

1. stomata

aerenchyma

1. important genetic exchange takes place resulting in variation
2. a.gradual change of living organism from simple life forms to more complex life forms
3. anaphase II
4. thin wall, dense cytoplasm, large vacuole
5. a. wind

b. hairy surface

29i. malaria

 ii. amoebic dysentery