



BIOLOGY

6884/01

PAPER 1

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Confidential

MARK SCHEME

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MARKS: 40

- 1 genus; [1]
- 2 segmented bodies;
jointed legs; [2]
- 3 (a) guard cells; [1]
(b) chloroplasts – a part that contains chlorophyll / unequal thicknesses of cell walls [1]
- 4 $C_6H_{12}O_6 \rightarrow 2C_3H_6O_3$; A 2 $C_2H_4OHCOOH$ [1]
- 5 (a) **A** contracts; [2]
 B relaxes;
- 6 less protein at fifty (less growth);
more carbohydrate / energy giving food at fifty [2]
- 7 (a) 8 / 4 pairs; [1]
(b) meiosis; [1]
- 8 insulin;
liver converts excess glucose to glycogen / insoluble form; [2]
- 9 fatigue / tiredness
general weakness / pale skin / anaemic / low haemoglobin count; [1]
- 10 phagocytes;
engulf / ingest + digest pathogens;
kill / destroy [2]
- 11 large petals; big / wide / conspicuous
Pistil / stigma [2]
- 12 (a) radiation / UV / X-ray / gamma rays;
 or
 chemicals stated e.g. tar; mustard gas, peroxides [2]
(b) discontinuous; [1]
- 13 vasectomy; [1]
- 14 (a) cancer; [1]
(b) (pudu) taxic response / taxis / tactic [1]

- 15** circular muscles contract / radial muscles relax;
pupil constricts / becomes smaller / reduced;
amount of light entering the eye is reduced / to prevent retinal damage [2]
- 16** receptors: detect the change in temperature; [1]
fatty tissue: insulate; prevents heat loss [1]
- 17** (a) antibiotic / kills bacteria; [1]
(b) liver cirrhosis / dementia / loss of memory / brain damage / brain shrinks / stomach
ulcers / cancer of the digestive system / heart disease; kidney failure; delirium tremor [1]
- 18** (a) Sun; [1]
(b) grass → praying mantis / grasshopper → ;lizard → hawk; [2]
(c) less energy is lost
increased efficiency/ organism at the end gets more energy [1]
- 19** soil erosion;
climate change / global warming / increase in carbon dioxide; / loss of carbon sinks / flooding
less oxygen;
imbalance in food chains; destruction of food chains / webs
loss of habitats; / loss of species / loss of natural on indigenous vegetation
loss of biodiversity;
desertification / drought / reduced rainfall [max. 2]
- 20** (a) glomerulus; [1]
(b) urea / uric acid / excess salts / hormones / drugs [1]
- 21** denitrification; [1]