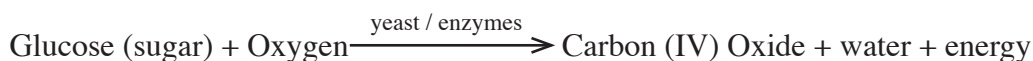


4.4.3 Biology Paper 3 (231/3)

1. (a) (i) Bubbles / gas formed/effervescence/foam/frith;  
lime water turns white/white ppt/milky/cloudy; (2 marks)
- (ii) Gas produced is carbon (IV) Oxide/CO<sub>2</sub>/carbon dioxide;  
which reacts with lime water to form a white precipitate/calcium carbonate/  
insoluble sent; (2 marks)
- (iii) Respiration / anaerobic respiration / fermentation/ aerobic respiration; (1 mark)
- (iv) Respiration

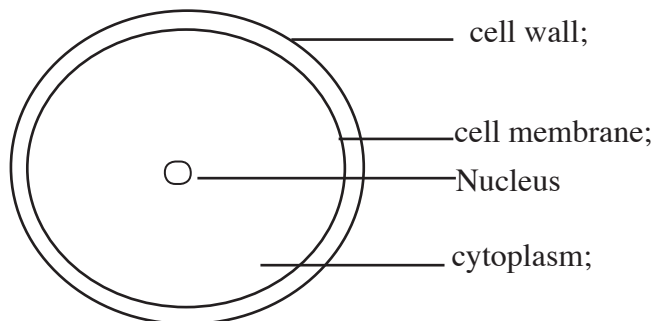


Or

Anaerobic Respiration / Fermentation



- (v) To provide optimum temperatures; for enzymes activity/action/working/  
reaction; (2 marks)
- (b) (i)



Labelling - 2 marks

Drawing - 1 mark

Max.

- (3 marks)
- (ii) X400; (eye piece lens x high objective lens) (1 mark)
- (iii) Yeast; (1 mark)
2. (a) (i) Angiospermatophyta/Angiospermae; (1 mark)
- (ii) E - veins on leaves / flowers / seeds;  
F - narrow / parallel veined leaves. (2 marks)

(b)	(i)	<b>LEAF E</b> Opposite Net-veined Serrated margin Rough surface Green Thin Broad Has petiole/Compact petiole Not succulent/fleshy Max.	<b>LEAF G</b> Alternate; Parallel veined; Smooth / entire margin; Smooth surface; Purple; Thick; Narrow; Has sheath/sheath - like petiole; Succulent/fleshy	(5 marks)
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(ii)	<b>STEM E</b> Opposite leaves Angular/square/four sided/rectangular Pricky/thorny/spiny/spines Woody / hard Green / Grey Non-succulent Max.	<b>STEM G</b> Alternate leaves Round/cylindrical Smooth/hairy; Herbacious / soft Purple; Succulent/juicy fleshy	(2 marks)
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(iii) Pricky/thorny/spiny: for protection against broasers/herbivourous/animals;  
Woody/hard: for mechanical support;  
(4 marks)

3. (a) (i) A (1 mark)

(ii) Presence of scapula/shoulder blade;  
Presence of Olecranon process/ulna/radius/humerus (2 marks)

(b) J Radius  
K Femur  
M Metatarsals  
(3 marks)

(c) Pelvic girdle (1 mark)

(d) H Gliding joint  
L Hinge joint  
(2 marks)

(e)	<b>Component</b> Ligament; Cartilage Synovial fluid Synovial membrane; Max.	<b>Function</b> Attach a bone to another bone; Shock absorber/facilitate gliding/reduce friction Lubrication/reduce friction/shock absorber Secretes synovial fluid;	(4 marks)
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