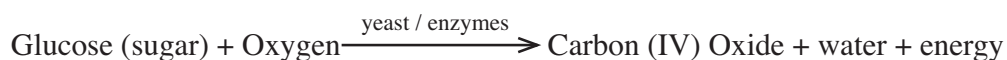


#### 4.4.3 Biology Paper 3 (231/3)

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/ $\text{CO}_2$ /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



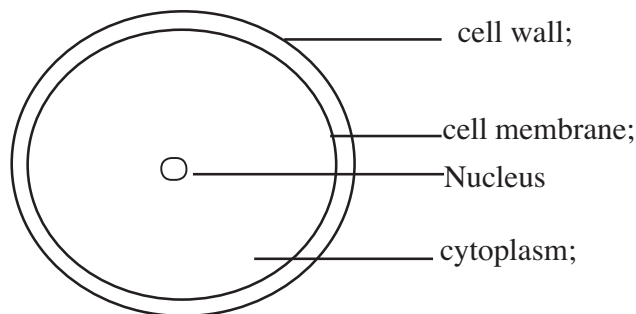
Or

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><br>Opposite<br>Net-veined<br>Serrated margin<br>Rough surface<br>Green<br>Thin<br>Broad<br>Has petiole/Compact petiole<br>Not succulent/fleshy<br>Max. | <b>LEAF G</b><br>Alternate;<br>Parallel veined;<br>Smooth / entire margin;<br>Smooth surface;<br>Purple;<br>Thick;<br>Narrow;<br>Has sheath/sheath - like petiole;<br>Succulent/fleshy | (5 marks) |
|     | (ii)  | <b>STEM E</b><br>Opposite leaves<br>Angular/square/four sided/rectangular<br>Pricky/thorny/spiny/spines<br>Woody / hard<br>Green / Grey<br>Non-succulent<br>Max.     | <b>STEM G</b><br>Alternate leaves<br>Round/cylindrical<br>Smooth/hairy;<br>Herbacious / soft<br>Purple;<br>Succulent/juicy fleshy  | (2 marks) |
|     | (iii) | Pricky/thorny/spiny: for protection against broasers/herbivourous/animals;<br>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>	<b>Function</b>
Ligament;	Attach a bone to another bone;
Cartilage	Shock absorber/facilitate gliding/reduce friction
Synovial fluid	Lubrication/reduce friction/shock absorber
Synovial membrane;	Secretes synovial fluid;
Max.	

 (4 marks)