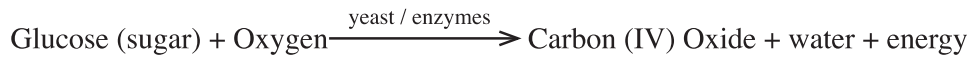


4.4.3 Biology Paper 3 (231/3)

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/CO₂/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

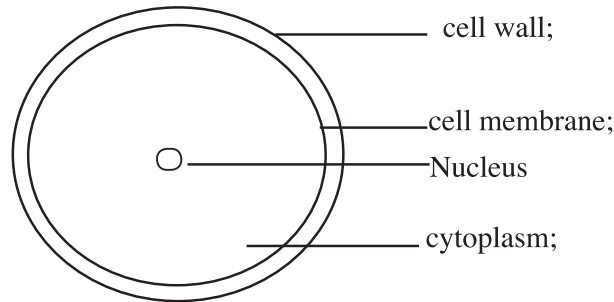


Or

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) **LEAF E**
 Opposite
 Net-veined
 Serrated margin
 Rough surface
 Green
 Thin
 Broad
 Has petiole/Compact petiole
 Not succulent/fleshy
 Max.
- LEAF G**
 Alternate;
 Parallel veined;
 Smooth / entire margin;
 Smooth surface;
 Purple;
 Thick;
 Narrow;
 Has sheath/sheath - like petiole;
 Succulent/fleshy
- (5 marks)

- (ii) **STEM E**
 Opposite leaves
 Angular/square/four sided/rectangular
 Pricky/thorny/spiny/spines
 Woody / hard
 Green / Grey
 Non-succulent
 Max.
- STEM G**
 Alternate leaves
 Round/cylindrical
 Smooth/hairy;
 Herbacious / soft
 Purple;
 Succulent/juicy fleshy
- (2 marks)

- (iii) Pricky/thorny/spiny: for protection against broser/erbivourous/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) **Component** **Function**
 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.