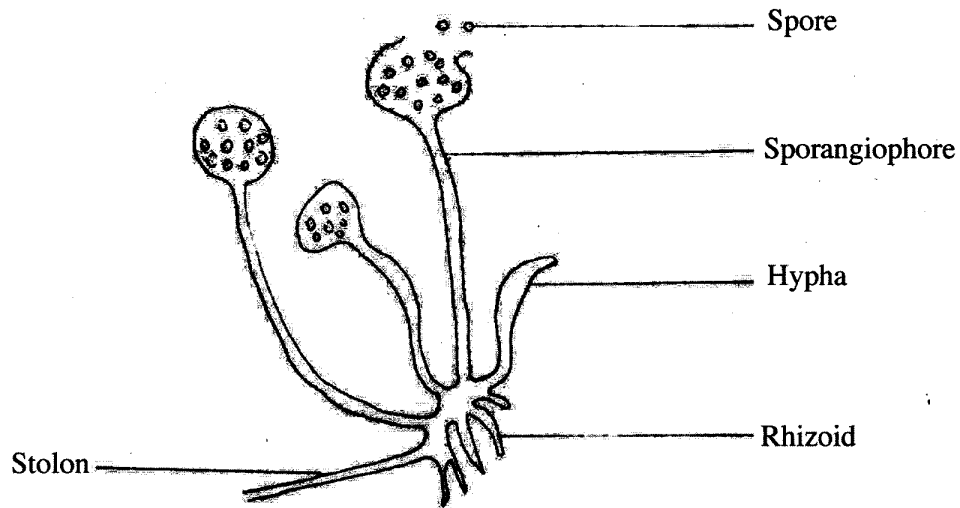


**5.2.3 Biology Paper 3 (231/3)**

1. (a) (i) Epigeal germination; (1 mark)
- (ii) Hypocotyle grows faster; raising the cotyledons above the ground level; (2 marks)
- (b) Protection of the embryo/plumule/plumule and radicle;  
Food storage;  
Photosynthesis; (3 marks)
- (c) Emergence of the hypocotyle exposes it to light;  
Light stimulates migration of auxins to the lower side of the hypocotyle;  
High concentration of auxins; on the lower side;  
Stimulates faster rate of growth than on the upper side;  
Faster elongation of the lower side straightens the seedlings; (6 marks)
2. (a) (i) Rhizopus/Bread mould/cassava mould/ugali mould/mould/mucor; (1 mark)  
*Rhizopus spp*;
- (ii) By spores/sporulation/sporulation; (1 mark)
- (iii)



Mg x5 - x 25

**Drawing (D)**

1. Continuous outline
2. Use of double lines
3. Stolon/Rhizoid not a must

L = 5 max 2 marks

D = 1

mg = 1

Max = 3 marks

- (b) (i) Dicotyledonae; (1 mark)
- (ii) Net/Reticulate venation/network venation;  
Floral parts in 5s/fours/five sepals/five petals;  
Broad leaf lamina/bract;  
Presence of leaf paticle; (3 marks)
- (iii) Insects; (1 mark)
- (iv) Conspicuous bracts/ petals/ sepals/brightly coloured petals/bracts;;  
Tabular corolla;  
Landing stage/corolla stage/platform; (3 marks)
- First correct three (3 marks)
- (v) Bract; (1 mark)

3. (a)

	F (pH 5)	G (pH 7)	H (pH 9)
Volume of solution + portion of potato	2.2 ± 0.2;		
Volume of solution + portion of potato + foam	4.2 ± 0.5;		
Volume of foam	2.0 ± 0.5;		

- Award accuracy for volume of solution + portion of potato 3 × 1 = 3 marks
  - Values should be F <; G <; H and solution + potato + foam is > solution + potato; 3 marks
  - Award correct subtraction for volume of foam 3 × 1 = 3 marks
- (b) The enzyme catalase; in the potato tissue breaks down hydrogen peroxide to water; and oxygen; (3 marks)
- (c) More foam is produced at pH 9; which is optimum for catalase activity; (2 marks)