

**BIOLOGY-231/3**  
**PAPER 3**  
**(PRACTICALS)**  
**MARKING SCHEME**

1. (a) A Rough endoplasmic reticulum      rej ER  
 C Nuclear membrane  
 D Mitochondrion    Rej Mitochondria
- (b) B Contains hereditary materials chromatids acc. Controls activities  
 E Protein synthesis  
 F Allows passage of materials into and out of nucleus
- (c) A Has tubular channels which allow for transport  
 D Has cristae which provide large surface area for attachment of respiratory enzymes
- (d) 1cm =100 microls  
 Actual length =  $\frac{U \times 1}{40,000}$   
 =..... Microns
- (e) Protein synthesis  
 A abundance of reboseomes (reason tied to activity)
2. (a) Q Anther  
 R style  
 S stigma  
 X calyx (setial)
- (b) X -protects inner part of flower during bud development  
 R -holds stigma in position for pollination;  
 -passage for male gametes after pollination as they move to ovary for fertilization;
- (c) poly petalous/tree petals;  
 Brightly coloured;
- (d) gamosetiosepalous;
- (e) Hypogynous
- (f) Dicotyledonae  
 It has five (5) anthers
- (g) Insects  
 (i) Brightly coloured to attract insects  
 Marginal

3. (a)

Food substance	Procedure	Observation	Conclusion
Reducing sugars	Put 2ml of solution N in a test tube . Add 2ml of Benedicts solution heat to boil.	Benedicts colour retained No observation colour change	Reducing sugar absent
Non reducing sugar	Put 2ml of solution N in a test tube Add 3 drops of HCl heat to boil for 3 minutes Add NaHCO <sub>3</sub> until fizing stops (No of drops added must be specified. Add 2ml of Benedicts solution .Heat to boil	Colour changes from blue ,green yellow orange;	Reducing sugar present;
Lipids	Put 1cm <sup>3</sup> of solution N in test tube . Add 4 ml of ethanol and shake Transfer this content into another test tube ½ full of water and shake;	No white emulsion formed	Lipids absent

(b) This was not wise because be body does not use or stored excess amino acid .  
It will have to be deaminated.