Experimental Techniques
Mark Scheme 2

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Time Allowed: 51 minutes
Score: /42
Percentage: /100
1. **(a)** chromatography (1)

2. **(b)** water (1)

3. **(c)** origin/base line/datum (1)
   
   *ignore* references to start/initial/pencil

4. **(d)** sweet C has 4 colours (1)
   sweet D has 3 colours (1)
   
   *allow* C has one more colour/more colours than D for one mark
   
   2 colours are the same (1)
2 (a) chromatography (1)  

(b) line drawn on diagram below origin (1)  

(c) does not interfere with results/owtte (1)  

(d) difference  
   A has more/3 colours/B has less/2 colours/B contains F but A doesn't/A contains C/  
   D but B does not (1)  

   similarity  
   both contain same colour/E (1)  

(e) C, D and E (1)  

3 (a) boxes correctly completed  
   measuring cylinder (1)  
   spatula (1)  
   tripod (1)  

(b) more than enough to react owtte (1)  

(c) diagram showing filter paper in a funnel (1) either labelled (1)  

[Total: 6]
4 (a) mortar (1) stirrer/(glass) rod (1) not metal rod or thermometer funnel (1) not filter or filter paper
(b) water
(ii) origin correctly labelled on diagram i.e. at dot
(c) two spots/dots at different levels in vertical line allow three spots if one is origin

[Total: 6]

5 (a) thermometer (1) beaker (1) tripod (1)
(b) to cool / condense the vapour (1)
(c) measure the boiling point (1)

[Total: 5]

6 (a) does not dissolve in solvent / interfere with results owtte (1)
(b) 1 and 3 (1)
(c) sample 4 (1) two spots present (1)
(d) to show position of the acids / spots (1)

[Total: 5]

7 (a) pestle (1) and mortar (1)
(b) chlorophyll more soluble in ethanol or similar
(c) filtration
(d) chromatography (1), paper (1), add pigments (1), use of solvent (1)