Organisation of the Organism
Mark Scheme

Level	IGCSE
Subject	Biology
Exam Board	CIE
Topic	Organisation of the Organism
Sub-Topic	
Paper Type	Alternative to Practical
Booklet	Mark Scheme

Time Allowed: **12**   minutes

Score: /10

Percentage: /100

1	(a	(i)	Possession of outer layer / skin / rind / bark / have layers / 'roundish' shape / cortex;		[1]	**Ignore** references to cells / colour

	(ii)	**Three** differences from:		[3]	**Accept** comparative answers in one box only If answers are in one box only, they must be comparative **Ignore** references to phloem and xylem

difference	stem	lotus stem
shape	irreg / oval / random / AW	round / circular/ cylindrical / symmetrical / AW;
cavities / holes / gaps / pores / pipes / air spaces	none / compact	cavities present / arranged in circle / porous / AW;
inner layer	fibrous / fibres / hair like	holes / gaps present / AW;
outer layer / bark / skin / wall	dark / thick / rough	light / thin / smooth / not visible / AW;
colour	uniform	dark patches / AW;
AW;		

	(b)	Feature [1] + linked explanation [1]		Max [2]	'Gas filled holes helps them to float' = 2 marks

holes / vessels / tubes / AW;	floatation / buoyancy / gas filled / gas exchange/ AW;
cylindrical / bends / flexibility;	resist currents / prevents damage;
smooth / surface area less;	Less pressure from water;

(c)	**Four marks from:** 1. cut (thin) section / piece of lotus root / grind / dissect / blend / mash / rub / layer of cells; 2. place on microscope slide / glass slide / slide / glass / slab; 3. stain with iodine <u>solution</u>; 4. cover slip used / AW; 5. look for blue / black stained grains / granules / spots / areas; 6. AVP;		**Ignore** heating and use of ethanol. **3. Acce** drops of iodine or iodine in KI. **5. Accept** 'darker' for 'black'
		MAX [4]	**6.** e.g. use blotting paper to mop up excess liquid
		[Total: 10]	