Question			Answer	Marks	Guidance
22	(a)		*glycogen is* **1** insoluble **,** so has no effect on **,** water potential / Ψ (of cell) ✓ **2** <u>metabol</u>ically inactive ✓ **3** compact / lots can be stored in a small space ✓ **4** able to store **,** large amounts / lots **,** of <u>energy</u> ✓ **5** (highly branched so) has lots of ends for **,** adding / removing **,** <u>glucose</u> (when needed) **or** can be broken down **,** fast / quickly / rapidly **,** to release <u>glucose</u> ✓	**3**	**ACCEPT** ORA for glucose for **mps 1, 2 3 & 4 only** **1 ACCEPT** insoluble so has no osmotic effect (on cell) **5 IGNORE** ref to surface area **Note:** 'compact so can store large amounts of energy' = 2 marks (mps 3 & 4)

Question			Answer	Marks	Guidance
22	(b)			3 max	***NOTE*** *answers must be the in context of* ***protein*** *transport.* *Penalise once if a different material (e.g. gene) is transported* to max 2
			1 <u>transport</u> vesicle from RER ✓		
			2 modification / processing / folding ✓		**2** **ACCEPT** example of modification e.g. converted into a glycoprotein **ACCEPT** in context of RER or Golgi
			3 in / at , Golgi (body / apparatus) ✓		**3** **IGNORE** SER / smooth endoplasmic reticulum
			4 (packaged into) <u>secretory</u> vesicle ✓		
			5 vesicles move along the cytoskeleton ✓		**5** **ACCEPT** use of motor proteins / chaperones / microtubules
			6 (vesicle) fuses with , cell <u>surface</u> / plasma , membrane ✓		**6** **ACCEPT** merges with **DO NOT ACCEPT** binds / attaches / dissolves
			7 (secretion occurs by) <u>exocytosis</u> ✓		**7** **DO NOT ACCEPT** exocytosis in context of excretion (rather than secretion) **DO NOT ACCEPT** vesicle being released by exocytosis