

Question Number	Answer	Additional guidance	Mark
7(b)	<p>A description that makes reference to the following points:</p> <ul style="list-style-type: none"> • differential gene expression (1) • by {epigenetic modification / histone modification / DNA methylation} (1) • {proteins / enzymes} synthesised (from active genes) which (permanently) modify the cell (1) • description of modification to become a sclerenchyma cell 	<p>ACCEPT only some genes are {active / switched on} / some genes are switched off</p> <p>ACCEPT {proteins / enzymes} {made / synthesised} produce a {structural / functional / metabolic} change</p> <p>e.g. synthesis of {cellulose/ microfibrils / lignin} / secondary thickening / lignification of cell walls</p>	(4)

Question Number	Answer	Additional guidance	Mark
7(c)	<p>An answer that makes reference to four of the following points:</p> <ul style="list-style-type: none"> • meiosis increases genetic variation / crossing over and {random / independent} assortment occur in meiosis (1) • the {genes / alleles / loci} for colour and grain length are linked (1) • (therefore alleles for these traits) will be inherited together / (therefore alleles for these traits) unlikely to be separated during crossing over (1) • the {genes / alleles / loci} for pea pod wrinkles and {colour/grain length} are not linked (1) • (therefore) the alleles for these traits will be inherited independently due to independent assortment (1) 	<p>ACCEPT meiosis results in haploid cells</p> <p>ACCEPT linkage is when {genes / alleles} are close together on the same chromosome</p> <p>ACCEPT allele for this trait may be separated from {colour/grain length/ other alleles} due to independent assortment</p>	(4)