

## DNA and the Production of Proteins Mark Scheme

3.	(a)		TAC GCT ACG CGA CAG	1	
	(b)	(i)	Protein	1	Protein synthesis is not acceptable (this is a process).
		(ii)	Molecule P: mRNA/messenger RNA (1)  Description: The order/sequence of <u>bases</u> (determines the order/sequence of amino acids) (1)	2	Reference to DNA bases, instead of mRNA bases is not acceptable unless molecule P is labelled as DNA.
		(iii)	Nucleus Nucleus (chromosomes)	1	Chromosomes alone is unacceptable.

4	D	1
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3.	(a)		1 = cytosine 2 = thymine	2	Not acceptable - letters instead of words, thiamine/thiamine
	(b)		Sequence/order of bases	1	Accept - examples of differing base order Not acceptable - reference to pairs of bases
	(c)		Messenger RNA/mRNA/MRNA	1	

4.	B	
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3.	(a)	(i)	Double (stranded) helix	1	
		(ii)	Complementary bases or base pairs/base pairing or adenine pairs with thymine and cytosine pairs with guanine.	1	Acceptable: - hydrogen bonds.  Not acceptable: - use of letters - names of bases linked with a (-) dash - 'bases' alone.
	(b)		<u>Nucleus</u>	1	