1. B

2. D

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)		Nucleus	1	

4.

(a)		1 = cytosine 2 = thymine	2	Not acceptable - letters instead of words, thyamine/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	

5.

(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 bases (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.

6.

(a)	(i)	mRNA/messenger RNA	1
	(ii)	Bases 1 C 1	2
(b)		Gene	1
(c)		Different sequence/order of bases	1

7.

(a)	(i)	Arginine	1
	(ii)	Lysine	1
	(iii)	Serine	1
(b)		1:3	1
(c)		Appropriate scale - must have 0, 6.4, 7 or 8 and at least one other number in between 1 Bars correctly plotted with clear bar tops 1	2