





- (c) With reference to Table 21.1, suggest how cells of different tissues of the same individual can produce different isoenzymes.

.....  
.....  
.....  
..... [2]

- (d) LDH can be present in blood plasma as a result of tissue damage.

Blood samples can be taken and tested to measure the concentrations of different LDH isoenzymes.

- (i) This test can help in the diagnosis of heart attacks resulting from atheroma formation.

Explain how atheroma can lead to a heart attack.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [3]

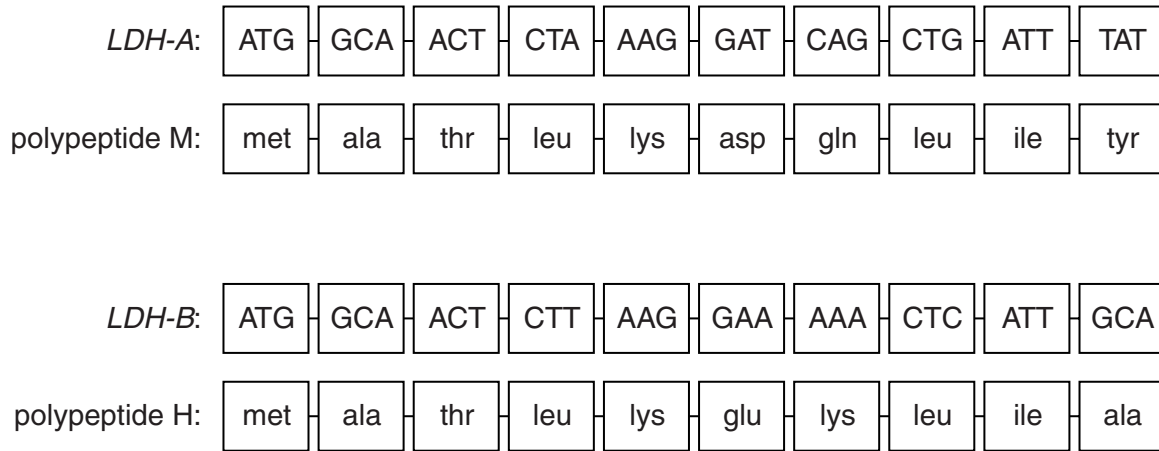
- (ii) Suggest how a test for LDH isoenzymes can help in the diagnosis of different conditions.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [4]

- (e) The base sequences of the *LDH-A* and *LDH-B* genes and the sequences of the amino acids encoded by these genes were determined.

For  
Examiner's  
Use

Fig. 21.2 shows the first ten amino acids of polypeptides M and H and the corresponding base sequences of one of the DNA strands of each gene.



**Fig. 21.2**

Table 21.2 shows the genetic code (mRNA codons).

**Table 21.2**

first position	second position				third position
	U	C	A	G	
U	phe	ser	tyr	cys	U
	phe	ser	tyr	cys	C
	leu	ser	STOP	STOP	A
	leu	ser	STOP	trp	G
C	leu	pro	his	arg	U
	leu	pro	his	arg	C
	leu	pro	gln	arg	A
	leu	pro	gln	arg	G
A	ile	thr	asn	ser	U
	ile	thr	asn	ser	C
	ile	thr	lys	arg	A
	met	thr	lys	arg	G
G	val	ala	asp	gly	U
	val	ala	asp	gly	C
	val	ala	glu	gly	A
	val	ala	glu	gly	G

