Question 26 (Answer: **D**)

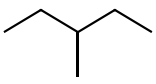
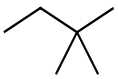
- Both steroids carry a ketone in the first ring, and both have a C=C inside that ring.
- A C=C *inside* a six-membered ring cannot show geometrical isomerism – the ring locks it.
- Their molecular formulas also differ, since progesterone carries an extra ethanoyl group.

Question 28 (Answer: **A**)

- Read the skeletal formula: every vertex and every line end is a carbon atom.
- Fill in hydrogens to give each carbon four bonds.
- Testosterone comes out as $C_{19}H_{28}O_2$, with one OH and one ketone oxygen.

Question 37 (Answer: **D**)

- Acid hydrolysis turns a nitrile into a carboxylic acid, so CH_3CN gives ethanoic acid.
- An ester of ethanoic acid hydrolyses back to ethanoic acid plus the alcohol.
- An aldehyde is not hydrolysed by aqueous acid at all – that would need an oxidising agent.

3(a)	**M1** (family of molecules / compounds / series with) same general formula **OR** (family of molecules where) molecular formula differs (only) by (units of) $CH_{2(n)}$. **M2** similar chemical properties / reactions
3(b)	**M1** strong C—H (bonds) **M2** non-polar (C—H / molecule / bonds)
3(c)	cracking
3(d)(i)	**M1**  **M2** 
3(d)(ii)	**M1** B < A < hexane. **M2** hexane / unbranched has stronger / more IMFs **M3** hexane / unbranched requires most / more energy
3(e)(i)	H_2 ((g)) **OR** hydrogen (gas)
3(e)(ii)	**M1** +215 + (–156) – (+48) = **M2** +11 kJ mol^{-1}
3(e)(iii)	$C_6H_{14} + 9½O_2 \rightarrow 6CO_2 + 7H_2O$