29. An introduction to A Level organic chemistry

29.1 Formulas, functional groups and the naming of organic compounds

Paper 4

Marking Scheme

Q1.

(a)	methyl pentanoate	1

Q2.

(a)(ii)	amide amine ester carboxylic acid / carboxyl any two [1] all four [2]	2

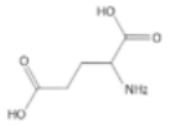
Q3.

(c)	3,4,5-trimethylphenylamine	1

Q4.

(a)(i)	carboxylic acid, amine, alkene Two correct for one mark, three correct for two marks	2

Q5.

(c)(i)		1

Q6.

(b)(i)	carboxylic acid/carboxyl, ester, amide, amine Any two [1], all four [2]	2

Q7.

(a)	phenol, amide AND alkene / C=C all three needed [1]	1

Q8.

(a)(i)	phenylamine **AND** amine **AND** ester	1

Q9.

(d)(i)	phenol **AND** ester	1

Q10.

(c)(i)	$C_{15}H_{15}NO_2$ [1]	1
(c)(ii)	amine **and** carboxylic acid **both** [1]	1

(c)(iii)	amount of 2,3-dimethylphenylamine = 5.00 / 121 = 0.0413 mol [1] amount of mefenamic acid = 0.0413 mol mass of mefenamic acid = 0.0413 × 241 = **9.96 / 9.95** g 3sf required [1] ECF	2

Q11.

(a)	4-chloro-3,5-dimethylphenol **OR** 3,5-dimethyl-4-chlorophenol [1] **ALLOW** 2,6-dimethyl-4-hydroxychlorobenzene and 2-chloro-5-hydroxy-1,3-dimethylbenzene	1