

Revised April 2013



Comments on 1994 Multiple-choice

- **Possible Blanks**

Of the 75 multiple-choice questions on the MC AP test, there will be a few that are either at the periphery of your knowledge, subtly disguised, or perhaps just really difficult. These *used* to be (prior to 2011) the ones that you left blank **BUT now there is NO penalty for wrong answers, so you should have ZERO BLANKS – you must guess on all questions that you cannot answer.** The following questions from the 1994 test are in that, 'hard question' category.

Question	Explanation/Comment	Comment
2	Electrons' wave component means they can be diffracted. TOPIC 3 & physics	E
9	Bond Order = 'the # of bonding e ⁻ pairs between two atoms'. TOPIC 8. May be able to guess that double bond = bond order of 2	D
11	Galvanized Fe is Fe coated with Zn. Zn is a more reactive metal than Fe and will oxidize more easily saving Fe from rusting. TOPIC 16, SERPS	C
12	Si 'doped' with As to increase conductivity. As provides extra electrons which can cross the gap from the valence band to the conduction band in the semi-conductor. Physics.	D
29	$\text{Cr}_2\text{O}_7^{2-} + \text{OH}^- \leftrightarrow 2\text{CrO}_4^{2-} + \text{H}^+$ Not REDOX (all charges same). Writing balanced equation with each of the possible answers as products <i>may</i> lead to the correct answer, but very time consuming	A
33	$\text{Density} = \frac{\text{mass}}{\text{volume}} \quad \& \quad P V = \frac{\text{mass}}{\text{Molar Mass}} R T$ possible to rearrange & substitute to give $\text{Molar Mass} = \frac{(\text{Density})(\text{Volume})(R)(T)}{(P)(V)}$ TOPIC 6, useful relationship	C

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- **Question Analysis**

TOPIC	Question Numbers	# of questions	Comments
1 Matter & Measurement	42	1	
2 Atoms, Ions & Nomenclature	13, 21, 72	3	
3 Electronic Configuration	1, 2, 3, 4, 27	5	
4 Stoichiometry	16, 19, 20, 38*, 53, 55, 56, 59, 71	9	
5 Aqueous Solution	18, 47, 52, 65	4	
6 Gases	24, 33, 37, 39, 40, 45, 64	7	
7 Periodicity	54	1	
8 Bonding	8, 9, 10, 15, 32, 34, 57, 62, 68	9	
9 Thermochemistry	25, 35, 58, 60	4	
10 Transition Metal Basics	46	1	
11 Organic Basics	-	0	
12 Equation Writing	29, 41	2	
13 Equilibrium	5, 6, 7, 48, 51, 73	6	
14 Acids & Bases	22, 31, 50, 61, 66, 69, 70, 74	8	
15 Kinetics	17, 23, 30, 49	4	
16 Electrochemistry	11*, 36, 63, 75	4	
17 Colligative Properties	14, 26, 28, 44	4	
Miscellaneous (peripheral/general knowledge)	12, 43, 52, 67	3	12 Semi-Conductors 43 Organic Isomerism 67 Separation Techniques
		75	

11* could also be considered Miscellaneous

38* could also be considered Topic 5

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• **Scoring Analysis**

The grade boundaries below are based upon calculating a multiple-choice score by awarding one point for each correct answer, and subtracting 0.25 points for each wrong answer. Questions omitted (blanks) are ignored and do not contribute anything to your overall multiple-choice score. Prior to 2011, the advice was to leave blank any question that you were clueless about, blank; 'clueless' meaning it was not even possible for you to eliminate a single answer choice.

THIS WAS THE FORMAT USED IN THE 1994 EXAM, but from 2011 onwards, there is no penalty for an incorrect answer, i.e., you should ALWAYS guess and you will have ZERO blanks

Since these grade boundaries are calculated using the old format, and we currently have no data for the new format, here is how you should treat your 75 answers to give you an idea of where you currently stand in terms of an AP score.

1. Award one point for each correct answer.

2. Look at all of the questions that you got wrong, and assign them to one of two categories, EITHER

a. A question that under the old format you would have left blank, i.e. a question that you were totally clueless about and could not eliminate even ONE answer. (There should be VERY few of these, and in recent years EVEN UNDER THE OLD FORMAT, many Westminster AP chemistry students have had closer to ZERO 'blanks'), OR

b. A question that you could eliminate at least one answer, i.e. one that you WOULD have guessed at on the old format.

3. For each question in category 2b., subtract 0.25 points from the total in #1. Do nothing with the questions in category 2a.

In the first column of the chart below, find the range in which your total multiple-choice score falls. The %'s on that line indicate the proportion of candidates with your multiple-choice score, that ultimately achieved the final AP score shown in the vertical column. The shaded boxes show the two most likely AP scores within any range. It's worth noting that your position within a range is important. For example, if you are at the top of a range you are much more likely to have ultimately achieved the higher AP scores.

The numbers in parenthesis underneath each percentage indicate the approximate multiple-choice score range that may most closely correspond to that percentage and that AP score. It is important to note that this is not a scientific mathematical analysis, rather a guesstimate! In addition, it is important to understand that there is no guarantee that a particular multiple-choice score relates to a particular AP score.

1994 Multiple-choice score related to final AP score

	1	2	3	4	5
47.50-75.00 (111 possible scores in the range)	0.00%	0.00%	0.60% (47.50-49.50)	15.90% (49.75-53.75)	83.50% (54.00-75.00)
36.50-47.25 (44 possible scores in the range)	0.00%	0.20% (36.50)	21.30% (36.75-39.25)	64.10% (39.50-46.25)	14.40% (46.50-47.25)
23.50-36.25 (52 possible scores in the range)	0.10% (23.50)	15.40% (23.75-25.50)	70.50% (25.75-34.25)	13.90% (34.50-36.00)	0.10% (36.25)
12.50-23.25 (44 possible scores in the range)	11.10% (12.50-13.50)	71.10% (13.75-21.75)	17.80% (22.00-23.25)	0.00%	0.00%
0.00-12.25 (50 possible scores in the range)	79.30% (0.00-9.50)	20.50% (9.75-12.00)	0.20% (12.25)	0.00%	0.00%