Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

classical: learning by association: a neutral signal is paired with something that already causes a response; operant: learning by consequences: behaviour that is rewarded becomes more frequent

2.2

(a) classical conditioning

(b) operant conditioning

(c) social learning

2.3

Roediger and Karpicke (2006); students learned short texts: one group read the text four times, another read it once and tried to recall it three times; after one week, the testing group recalled 61 % of the ideas, the re-reading group 40 %; practising recall strengthens memory more than re-reading

2.4

award up to [6]: the testing effect: recalling information strengthens memory more than re-reading; Roediger and Karpicke (2006): after a week, testing gave 61 % recall against 40 % for re-reading; so students should test themselves, e.g. word cards or short quizzes, not just re-read; spacing: short sessions over the two weeks work better than one long session the night before; re-reading feels easy, so students may think they know the words when they do not; a limit: the study used texts and one week; word lists for an exam may differ, but the advice fits the evidence

3.1

Mark with the markbands: [13-15] focused on the claim, accurate knowledge, evidence used to build an argument, the concept used to evaluate throughout, a supported conclusion; [10-12] mostly focused, evidence used, some evaluation through the concept; [7-9] relevant knowledge but mostly description; [4-6] limited knowledge, little evaluation; [1-3] little that is relevant. Points that may be included: testing effect: Roediger and Karpicke (2006): 61 % against 40 % recall after one week; measurement: learning measured as the percentage of ideas recalled from short texts after a fixed delay; a clear, comparable measure, but it covers recall, not understanding or applying knowledge; the delay matters: re-reading can look as good on an immediate test, so the time of the measure changes the result; spacing also improves long-term recall, so how and when we test both matter; Sparrow et al. (2011): what we remember depends on whether we expect to look information up later; lab texts and university students may not represent every subject or learner; conclusion: strong evidence that self-testing beats re-reading for recall; "the best way" needs measures of understanding and real exams

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