

Retrospective

2018 Queensland Core Skills Test

Multiple Choice (MC) I & II (Part 1 of 5)

Multiple Choice (MC) I & II

The 2018 MC subtest consisted of two testpapers, each with 25 verbal and 25 quantitative items. For an item, the facility (F) is the proportion of students who gave the correct response; it is expressed as a percentage. For the 2018 MC subtest, the average facility (AF) was 53.1%. The average facility on verbal items was 48.7%, and on quantitative items was 57.5%. The average facility for MC I was 54.4% and for MC II was 51.9%. On MC I, facilities for items ranged from 28% (item 43) to 83% (item 10), and on MC II from 28% (item 91) to 82% (item 64).

Within the verbal domain, stimulus materials included extracts from novels, poems, quotations and diagrams. Within the quantitative domain, stimulus materials included diagrams, illustrations, tables, graphs and formulas. Epistemic areas covered included English language and literature, biography, politics, biology, sport, visual arts, history, demography, genealogy, commerce, music, architecture, geography, and pure and applied mathematics.

The following table summarises data about the 20 units that made up the 2018 MC subtest. The main Common Curriculum Elements (CCEs) tested in each unit are listed. The order of the CCEs for each unit does not reflect the order of the items, nor does it imply a cognitive hierarchy. The baskets into which CCEs are grouped are shown in Appendix 3.

MC I & II 2018 summary

Unit	Item	Key	Basket	F	AF (%)	Common Curriculum Elements
1 Lonely Betters	1	B	θ	38	60.0	33 Inferring 43 Analysing 45 Judging/evaluating
	2	C	θ	52		
	3	B	θ	70		
	4	C	θ	70		
	5	D	θ	61		
	6	A	θ	69		
2 Queenslander	7	B	α	79	67.5	1 Recognising letters, words and other symbols 16 Calculating 50 Visualising
	8	A	ϕ	65		
	9	C	ϕ	47		
	10	A	β	83		
	11	B	ϕ	70		
	12	B	ϕ	61		
3 Quotations	13	D	α	64	60.5	4 Interpreting the meaning of words 43 Analysing
	14	A	θ	57		
4 Names diagram	15	A	α	77	57.5	1 Interpreting the meaning of symbols 6 Interpreting the meaning of diagrams 29 Comparing/contrasting 32 Deducing 35 Extrapolating
	16	C	α	60		
	17	C	θ	72		
	18	C	β	39		
	19	D	α	57		
	20	A	θ	40		
5 Political Biography	21	D	α	29	44.0	4 Interpreting the meaning of words 28 Empathising 33 Inferring 43 Analysing
	22	A	θ	47		
	23	B	θ	54		
	24	C	α	46		
	25	C	α	44		
6 ETC	26	C	ϕ	52	61.0	6 Interpreting the meaning of tables 19 Substituting in formulae 37 Applying a progression of steps to achieve the required answer 43 Analysing
	27	B	α	68		
	28	C	ϕ	58		
	29	B	ϕ	66		
7 Catch-22	30	A	θ	30	45.9	10 Using vocabulary appropriate to a context 29 Comparing/contrasting 31 Interrelating ideas, themes and issues 33 Inferring 43 Analysing 45 Judging/evaluating
	31	D	π	63		
	32	C	β	44		
	33	B	θ	47		
	34	C	θ	49		
	35	B	β	53		
	36	D	β	45		
	37	A	β	36		

Unit	Item	Key	Basket	F	AF (%)	Common Curriculum Elements
8 Blood Groups	38	A	ϕ	72	56.6	16 Calculating 29 Comparing/contrasting 32 Deducing
	39	D	β	39		
	40	D	ϕ	52		
	41	A	β	76		
	42	D	θ	44		
9 Eternal Return	43	D	θ	28	37.3	33 Inferring 43 Analysing
	44	C	θ	46		
	45	D	θ	33		
	46	C	θ	42		
10 Ukulele	47	A	ϕ	72	56.5	16 Calculating 19 Substituting in formulae 37 Applying a progression of steps to achieve the required answer
	48	D	ϕ	54		
	49	B	ϕ	37		
	50	B	ϕ	63		
11 Heroes	51	A	β	65	66.3	4 Interpreting the meaning of words 29 Comparing/contrasting
	52	B	α	65		
	53	B	β	69		
12 Taps	54	A	ϕ	49	59.0	16 Calculating
	55	C	ϕ	69		
13 Charlie	56	A	θ	37	48.4	4 Interpreting the meaning of words 33 Inferring 43 Analysing
	57	C	θ	41		
	58	A	θ	57		
	59	B	β	67		
	60	A	θ	40		
14 Safe Leads	61	C	ϕ	78	67.2	15 Graphing 19 Substituting in formulae 37 Applying a progression of steps to achieve the required answer
	62	D	ϕ	61		
	63	A	ϕ	37		
	64	C	ϕ	82		
	65	D	π	78		
15 Cities	66	B	π	43	47.0	10 Using vocabulary appropriate to a context 11 Summarising/condensing written text 33 Inferring 45 Judging/evaluating
	67	C	π	46		
	68	D	π	36		
	69	C	θ	50		
	70	B	θ	60		
16 Skyscraper Tiles	71	A	α	59	52.6	6 Interpreting the meaning of diagrams 32 Deducing 38 Generalising 50 Visualising
	72	D	β	60		
	73	A	β	46		
	74	D	β	48		
	75	A	θ	50		

Unit	Item	Key	Basket	F	AF (%)	Common Curriculum Elements
17 Art and Aesthetics	76	B	θ	41	44.4	4 Interpreting the meaning of words 28 Empathising 29 Comparing/contrasting 33 Inferring 45 Judging/evaluating
	77	C	α	47		
	78	D	θ	61		
	79	A	α	42		
	80	C	β	31		
18 Future Population	81	B	α	64	62.0	6 Interpreting the meaning of graphs 32 Deducing 38 Generalising 45 Judging/evaluating 50 Visualising
	82	A	ϕ	63		
	83	B	α	73		
	84	D	α	69		
	85	B	β	37		
	86	D	α	66		
19 Mrs Freeman	87	D	π	44	46.7	10 Using vocabulary appropriate to a context 11 Summarising/condensing written text 28 Comparing/contrasting 33 Inferring 43 Analysing 45 Judging/evaluating
	88	B	π	64		
	89	C	θ	56		
	90	B	θ	43		
	91	A	θ	28		
	92	D	α	34		
	93	D	θ	58		
20 CC Numbers	94	C	β	42	41.0	16 Calculating 30 Classifying 32 Deducing 37 Applying a progression of steps to achieve the required answer
	95	B	θ	47		
	96	C	θ	44		
	97	D	ϕ	29		
	98	B	ϕ	46		
	99	A	ϕ	34		
	100	C	θ	45		
Average facility on subtest					53.1	

MC I commentary

This section gives a brief outline of each unit. Three units (7, 9 and 10) are singled out for detailed analysis.

Unit 1 *Lonely Betters*

This poem by WH Auden reflects on the ambivalence of language-use amongst humans by imagining what it would be like if birds and other animals were given the ‘gift’ of language.

Unit 2 *Queenslander*

Timber homes called ‘Queenslanders’ are iconic features of Queensland urban landscapes. This unit uses a plan of a particular Queenslander from the 1930s as a point of departure for asking questions about length, area, ratio, percentage, and the interpretation of graphic conventions.

Unit 3 *Quotations*

For this unit students were required to deconstruct rich verbal texts.

Unit 4 *Names*

This unit required students to apply a series of naming rules to a typical genealogical chart spanning six generations. Students needed to demonstrate an understanding of the conventions underpinning the chart itself. Though the naming rules are expressed verbally, the chart involves analysing spatial relationships between a set of abstract symbols.

Unit 5 *Political Biography*

In this unit, a literary critic discusses some key differences between the issue of ‘character’ in works of fiction, and the characters/personalities of real politicians as represented in biographies of them. Students were required to comprehend difficult words and phrases and to draw broader inferences from various parts of the text.

Unit 6 *ETC*

This unit is based on the fees charged by mobile phone companies when customers end their contracts early. There is a formula for calculating early-termination fees, and students were required to understand and apply the formula. In addition, they needed to make use of data presented in a table.

Unit 7 *Catch-22*

This unit is based on two passages from Joseph Heller’s novel *Catch-22*, which is set during the Second World War (1939–45). In the passages, two officers in the United States Army are introduced and described. The first passage deals with Colonel Cathcart, and the second with General Peckem, one of Cathcart’s commanding officers.

Item 30

In this item, students were required to analyse the first three lines of Passage 1 to determine what representation of Cathcart is conveyed. To answer this item correctly, students needed to recognise the humorous incongruity between Cathcart’s physical attributes and his use of a cigarette holder. In the passage, Cathcart is described as ‘very large’ and ‘broad-shouldered’, traits which suggest bulkiness and conspicuousness. He is also described as ‘pouting’, which suggests sullenness and a degree of immaturity. These characteristics paint Cathcart as a person who is big, blunt and probably used to getting what he wants when he wants. However, Cathcart’s choice of accessory, the ‘ornate cigarette holder’, does not fit with this image; it is a slender and delicate object that is often associated with refinement and stylishness. The idea of such a beefy and graceless person using such a dainty accessory is thus somewhat comical. Yet, Cathcart lacks the wit to see how ridiculous he appears, since he has himself purchased the cigarette holder

and chosen to use it. Option A is the key — Cathcart is inelegant in both appearance and in thought, and is trying to come across as more cultured and sophisticated than he is. Option B is incorrect: while the dainty and fragile cigarette holder might be linked with sentimentality, it is unlikely that using it would allow Cathcart to hide behind an appearance of toughness. If Cathcart had wanted to come across as tough, he would have selected a more robust accessory that symbolised toughness. Option C is incorrect as it cannot be said that Cathcart carries his authority with confidence and solemnity. Cathcart's 'pouting' facial expression suggests sullenness and immaturity rather than confidence, and, instead of projecting an air of authority, Cathcart invites ridicule by using the cigarette holder — an accessory that so clearly jars with his appearance. Option D is incorrect because Cathcart does not demonstrate that he can play the rugged soldier or the refined gentleman; the absurdity of the image he presents by using the cigarette holder prevents him from playing either of these parts successfully.

Item 31

This item required students to select the word that would best substitute for 'adroitly' (line 4) from the options provided. Even if students do not know the meaning of 'adroitly' (cleverly and/or skilfully), it is possible to answer this item correctly by carefully considering the context in which the word is used — namely lines 3 and 4, which state that Cathcart 'displayed the cigarette holder grandly on every occasion, and had learned to manipulate it adroitly'. Option A is incorrect. Although there is some indication that Cathcart's use of the cigarette holder in front of others is, in fact, expressive (since he 'display[s] it grandly') it must be remembered that the adverb 'adroitly' is used to modify the verb 'manipulate'. Manipulation in this context refers to fine control of an object using one's hands, yet 'expressively' indicates dramatic conveyance of thought or feeling. It seems unlikely that the author would have used the word 'expressively' to describe 'manipulate', since it does not support the ideas (physical deftness and skill) that are emphasised by that verb. Option B is also incorrect. Although Cathcart is obsessive in his thinking later in the passage, there is no indication at this point that he manipulates the cigarette holder in an obsessive way. The passage states in lines 5 and 6 that Cathcart 'had discovered deep within himself a fertile aptitude for smoking with a cigarette holder', implying a sense of comfort that contradicts the sense of feverish anxiety implied by 'obsessively'. Similarly, Option C is incorrect because it implies a level of caution that is not in line with the context. Cathcart displays the cigarette holder 'grandly' and feels that he has a 'fertile aptitude' for using it, suggesting that his manipulation of the object is free and easy rather than careful. This leaves option D as the key. 'Skilfully' is a very appropriate adverb to pair with 'manipulate', since manipulation necessitates physical skill and dexterity. The idea of skilfulness is also reiterated in lines 5 and 6, which make clear the 'aptitude' that Cathcart feels he has for using the cigarette holder.

Item 32

In this item, students were required to identify the most appropriate simile with which to describe Cathcart's overall way of thinking in the latter part of Passage 1. To answer this item correctly, students first must recognise the essential feature of Cathcart's thought process in the specified portion of the extract — namely that he appears to switch back and forth constantly between opposing mindsets. This fluctuation begins in line 8: Cathcart has 'no doubts' that General Peckem approves of his cigarette holder but then, almost immediately, begins to worry that Peckem 'might not have approved of his cigarette holder at all' (line 11). Cathcart's misgivings make him 'want to throw [the cigarette holder] away' (lines 12 and 13) but he is then prevented from doing so by his 'unswerving conviction' that it 'embellish[es] his masculine, martial physique with a high gloss of sophisticated heroism' (lines 14 and 15). Then, in lines 16 and 17, Cathcart reverts to doubting himself again — 'how could he be sure?'. Students needed to relate this essential feature with the situations and determine which is most consistent. Option C is the key. The ping pong ball being struck back and forth mirrors the rapid back-and-forth of Cathcart's thoughts, while also conjuring up a sense of agitation that is in sync with his sense of insecurity. Option A is incorrect. The chaotic and tangled heap of cables does not reflect Cathcart's way of thinking, since this image suggests a level of messiness and randomness that is not apparent. Cathcart's thinking may be somewhat unsettled, but it is nevertheless quite predictable. Further, option A implies a level of functionality — 'still supplies power' — that is inconsistent with the way Cathcart thinks. There is a sense that Cathcart's thought process is extremely dysfunctional despite its predictability, since he can never really decide on anything without immediately questioning himself. Option B is also incorrect, as it suggests a sense of momentum that is not apparent.

A 'forest fire' that is 'becoming uncontrollable' implies a progression towards an outcome, yet Cathcart's way of thinking appears to preclude any outcome, as he is constantly fluctuating between opposing attitudes. Option D is incorrect for similar reasons. It suggests a countdown towards a catastrophic event; however, there is no sense that Cathcart's thinking is progressing towards any such climax.

Item 33

This item required students to determine the circumstances in which Cathcart appears most confident. Students needed to identify the parts of Passage 1 when Cathcart appears confident, then recognise what is consistent in each of these cases. There are three main parts in the passage when Cathcart demonstrates confidence: in lines 4–6, when he reflects on the natural flair he possesses for using his cigarette holder; in lines 5–8, when he considers the possibility that he is unique among all other US officers in the Mediterranean in using the object; and in lines 13–16, when he is brought back from wanting to throw away the cigarette holder by his 'unswerving conviction' that it makes him appear heroic. The common thread in each of these cases is that Cathcart is fantasising about his own excellence, and so option B is the key. Option A is incorrect because conducting self-scrutiny appears to counteract Cathcart's belief in himself. This is apparent in the last sentence of the extract, when Cathcart's statement of self-scrutiny ('how could he be sure?') undermines his previous display of confidence. Option C is also incorrect. Although it is reasonable to infer that Cathcart is confident in his actions based on lines 3 and 4, he also demonstrates confidence when thinking and feeling, as evident in lines 6–8 and 13–16. Finally, option D is incorrect because Cathcart is not only confident when presented with competition, he is also confident at other times. This is apparent in lines 4–6, when Cathcart reflects solely on himself and his own skill in using the cigarette holder.

Item 34

In this item, students were required to infer the most likely reason why General Peckem describes himself as a 'realist' in Passage 2 (line 2). To answer this item, students needed to consider several key points throughout the passage. Students are reminded to always read the item stem carefully — in this case, the stem asks students to base their reasoning on a full reading of Passage 2. The passage states that Peckem describes himself as a 'realist' whenever he is 'about to criticise the work of some close associate publicly' (lines 1 and 2). So, it can be inferred that Peckem's use of this word is tied to the action of commenting on others' work in a public setting. To 'criticise' can mean either to 'scrutinise' or 'condemn', but the fact that Peckem chooses to criticise others' work in public suggests the latter meaning, since if he had really wanted to be tactful and constructive in his criticism, he would have given it in private (and so perhaps spared the feelings of the receiver). Later, the passage states that Peckem is 'sensitive to everyone's weaknesses' and '[finds] everyone absurd but himself' (line 6). This suggests that Peckem really has very little regard for others but does possess a certain knack for discerning their flaws, confirming the idea that his criticism of others' work is designed to humiliate rather than to be helpful. Finally, we are told that Peckem writes memoranda 'praising himself and recommending that his authority be enhanced' (lines 9 and 10); and that he 'always' describes the writing in other officers' memoranda as 'turgid, stilted, or ambiguous' (line 11). From this, it is apparent that Peckem is driven primarily by a selfish desire to progress his career, and that he routinely undermines other officers to achieve this aim. Yet, it is unlikely that Peckem could progress his career by openly belittling others all the time — this would not be appropriate for a general in the US Army. So, it is most reasonable to infer that Peckem calls himself a 'realist' because it allows him to undermine others in a way that makes him seem as though he is simply committed to the interests of the Army. Thus option C is the key. Option A is incorrect, since Peckem has little regard for anybody but himself — he '[finds] everyone absurd' (line 6). Option B is incorrect as there is no sense that Peckem cares about improving the performance of those he commands. Indeed, it is not unreasonable to think that Peckem's routine humiliation of his associates might engender a culture of negativity and resentment rather than one of efficiency and practicality. Option D is also incorrect. Peckem uses the notion of being a 'realist' as a means of sabotaging others while appearing reasonable, and this suggests that he is both deceitful and biased in his own favour. So, it follows that Peckem does not believe honesty or neutrality are very important, since his behaviour indicates a lack of commitment to these qualities.

Item 35

This item required students to compare Passages 1 and 2 to determine a key way in which Peckem differs from Cathcart. Option A is incorrect because it is not consistent with the character of Peckem as he is depicted in Passage 2. Rather than willingly accommodating other people, Peckem cares little about them — he ‘finds everyone absurd but himself’ (line 6) — and he also makes a conscious effort to undermine them — he ‘always’ describes other officers’ prose as ‘turgid, stilted, or ambiguous’ (line 11). Option C is also incorrect. While it is apparent that Cathcart is attempting to cultivate an image by using his cigarette holder, Peckem also works hard to shape the image that he projects. He attempts to come across as rational and level-headed by describing himself as a ‘realist’ (line 2) and affecting a ‘casual and relaxed’ manner (line 3). He also paints himself in a favourable light in his written memoranda, when he ‘prais[es] himself and recommends that his authority be enhanced’ (lines 9 and 10). Option D is incorrect because it suggests that Cathcart does not take pride in his devotion to style. However, in Passage 1 Cathcart’s use of his cigarette holder does bring him great pride; this is evident in lines 14–16 when he thinks about how it ‘embellishes’ his image with a ‘high gloss of sophisticated heroism’. The fact that Cathcart sometimes feels a degree of anxiety about the object does not preclude him from also, at times, taking pride in his devotion to using it. Option B is the key: Peckem does not second-guess himself in the way that Cathcart does. Peckem is consistent in his attitudes, and his reflections indicate a strong level of self-assurance — he finds everyone but himself ‘absurd’ (line 6).

Item 36

In this item, students were required to compare the characters of Peckem and Cathcart to determine which piece of life advice they would most likely agree upon. Option D is the key. Both Cathcart and Peckem are utterly committed to the progression of their own careers — getting to the ‘top’ — and this ambition underpins all their thoughts and actions. In Passage 1, Cathcart’s ambition is made clear in lines 13–16, when it is revealed that he uses the cigarette holder because he believes it ‘illuminates him to dazzling advantage among all the other full colonels ... with whom he was in competition’. From this, it becomes clear why Cathcart cares so much about whether Peckem ‘approve[s]’ of the cigarette holder or not: Peckem is one of Cathcart’s superiors, and so presumably has the power to promote him. In Passage 2, Peckem’s ambition is apparent when he writes memoranda that ‘recommend his authority be enhanced to include all combat operations’ (lines 9 and 10). It is also clear that Peckem actively works to maintain his authority — to stay at the top — by discrediting rival officers, as when he disparages their writing (line 11) and criticises their work publicly (line 2). Option A is incorrect because both Peckem and Cathcart focus extensively on details and appear to regard these as important. Peckem ‘lay[s] great, fastidious stress on small matters of taste and style’ (line 7), and Cathcart overanalyses the effects of his using a cigarette holder to a near comic degree. Option B is incorrect because it presumes that Peckem and Cathcart attempt to appear unique simply for the sake of it; but this is not the case. Rather, each of them strives to stand out from the crowd because they believe that doing so will help them climb the chain of command. If mere uniqueness were these characters’ primary motivations, then they would not care about their own career advancement to the extent they do. Option C is incorrect because neither of the characters appears to accept their flaws. Though it is reasonable to infer that Cathcart might be aware of his flaws (his sense of self-doubt appears to assail him constantly), he does not accept them. Rather, he appears to deal with his misgivings by ignoring them and over-compensating for them through fantasy. In Peckem’s case, there is a clear lack of awareness of his own flaws, as he is ‘sensitive to everyone’s weaknesses but his own’ (line 6).

Item 37

This item required students to interpret the narrator’s tone in both passages. When interpreting written tone, students should always remember to relate what they read to its wider context. In this case, the passages are from a novel set during the Second World War, and both characters are high-ranking officers in the US Army. It would normally be expected that people in such powerful roles are capable, level-headed and devoted to the soldiers whom they command. But Cathcart and Peckem do not live up to this expectation; they are both utterly self-absorbed people who don’t appear to care at all about the welfare of their soldiers. Instead of devoting their attention to strategy or leadership, they are both concerned with pointless minutiae: Cathcart obsesses over his cigarette holder and Peckem commits his time to correcting others’ grammar. Both officers are, in effect, caricatures of ineptitude; they are so absurdly unfit for the task of command that the effect is

comical. The style of writing also demonstrates a subtle wryness that mirrors the satirical humour of the subject matter. This is apparent in Passage 2, when the narrator states that ‘it was not true that he [Peckem] wrote memorandums praising himself ... he wrote *memoranda*.’ The reader is initially fooled into thinking that Peckem might not be the despicably selfish person he appears to be, but the narrator then subverts this thought while also adding the idea that Peckem is petty and pedantic as well. This makes option A the key — the tone is both playful and mocking. Option B is incorrect. Though there is certainly a strong sense of rhythm and repetition in both passages, e.g. the constant use of similar-length sentences beginning with ‘he’ and ‘his’ in Passage 2 this repetition is neither lyrical nor melodious. The writing makes little use of figurative language, and the subject matter is wry rather than passionate or beautiful. Option C is incorrect. The passages mostly involve concrete descriptions rather than complex or abstract ideas (the humour arises from the incongruity between these descriptions and human reality). Option D might be considered partially correct, but is nevertheless not the best description of the narrator’s tone. At face value, the style of the writing demonstrates some elements of straightforwardness and ‘factuality’. But this factuality is not apparent in the content of the writing, which conveys ridiculousness.

Unit 8 *Blood groups*

This unit required students to understand and apply data presented in tabular and graphical forms.

Unit 9 *Eternal Return*

The extract in this unit is from French/Czech writer Milan Kundera’s novel *The Unbearable Lightness of Being*. Kundera is as much a philosopher as a novelist, and has often incorporated philosophical musings into his work. In this extract, Kundera discusses philosopher Friedrich Nietzsche’s concept of ‘eternal return’. Kundera’s writing style is rich and sophisticated.

Item 43

This item required a sophisticated understanding of the first paragraph. In this paragraph, Kundera elects to define the idea of eternal return by explaining what it is NOT. In other words, when Kundera says ‘putting it negatively’, what he is about to do is explain what normal life is like, the life that we all know to be true from personal experience, i.e. non-recurrent. For Kundera, a non-recurrent life, in which things happen only once, has no fixed or enduring meaning (‘means nothing’; line 6): memories fade, difficult events are sanitised, or given whatever meanings anyone likes at any given point in time. Thus option D is the key. Option A is incorrect because, in Kundera’s view, people do attribute significance to events as they are happening — it’s just that the ‘significance’ is ephemeral. Option B is incorrect because ‘non-recurrence’ does not necessarily imply ‘randomness’, while ‘randomness’ may equally be a characteristic of events in a recurrent universe. Option C is incorrect because Kundera does not claim that it is the uniqueness of events that engenders meaning.

Item 44

The crux of this item lies in the final sentence of the second paragraph, where Kundera makes the point that in a recurrent universe people are continually brought face-to-face with horrible events and are unable to distance themselves from those events. Idealising unpalatable events is one way in which people act to distance themselves from the nastier aspects of the events. Option C is the key. Option A is incorrect because it implies a situation that is opposed to the point Kundera is trying to make: far from becoming ‘commonplace’, the French Revolution will forever be experienced as horrific, and that horror can never be normalised. Option B sounds plausible but upon analysis is found to be irrelevant to Kundera’s point in lines 7 and 8. Likewise, Robespierre’s importance in the French Revolution is not at issue here, so option D is incorrect.

Item 45

In this item students were required to carefully analyse the third paragraph. Kundera maintains that in a non-recurrent universe all events are transitory. He also maintains that if something is transitory or ephemeral it has no real substance, and therefore cannot be judged. Of course, whether one agrees with that claim — and many would not — is moot; Kundera appears to believe it, and that is sufficient. Kundera’s use of

the word 'condemn', and his allusion to the guillotine, show that the kinds of judgments he is talking about here are moral judgments. Therefore option D is the key. Option A is incorrect because in a non-recurrent universe the notion of 'taking steps' to prevent recurrence is absurd and bizarre. Option B is incorrect because it assumes that Kundera is chiefly interested in explaining events; but as we have seen, Kundera's main concern here is with the moral content of an event. Option C is incorrect because in a non-recurrent universe it is absurd to try to assess long-term significance, and 'significance' is less central to Kundera's argument than is morality.

Item 46

Clues to answering this item are found at various points in the extract, and particularly in the second and third paragraphs. Phrases such as 'mere words, theories and discussions' (line 9), 'lighter than feathers' (line 10) and 'illuminated by nostalgia' (line 17) speak to a process of sanitisation. Option C is the key. Option A is incorrect because, for Kundera, it is not the historical detail that gets lost over time but the significance and experience of an event; indeed, as time goes by, people gravitate to the historical detail for the very purpose of avoiding the intractable problem of meaning (especially moral meaning). Option B is incorrect because, as Kundera strongly suggests, it is not that the past influences the present but that the past is influenced by the present, i.e. the past is continually reinterpreted to suit changing motives. Option D is incorrect because, as time goes by, assessments of past events tend to become more subjective, not objective; subjectivity means the event becomes increasingly open to any number of assessments.

Unit 10 Ukulele

This unit is based on the string tensions required to tune the four strings of a ukulele. A formula for string tension, which is a function of string length and diameter, the frequency of the string and a constant, is given. A table gives diameters for the four strings of a ukulele (A, E, C and G) and their required frequencies.

Item 47

Students needed to find the tension on an E-string by substituting its given length, and relevant information from the table, into the formula provided. The product of string length, frequency and diameter is squared, and the result is multiplied by the constant, 3.456. Option A is the key with the correct answer of 2 933 000 dynes. Option B is incorrect and results from not squaring the product of string length, frequency and diameter. Option C is incorrect and results from multiplying that product by 2 instead of squaring the result. Squaring the product of string length, frequency, diameter and the constant gave option D, which is incorrect.

Item 48

The scenario of a company that sells ukulele strings in bulk lengths was provided. Students needed to calculate the weight of a 30-metre length of string, given the mass of a cubic centimetre of the string and its cross-sectional area. A formula for the volume of a cylinder is also provided. The correct answer is obtained by multiplying the cross-sectional area by the length to get the volume in cubic centimetres, and then multiplying the result by the mass of one cubic centimetre. Option D is the key. Option A results if the mass is subtracted from the cross-sectional area and multiplied by the length. Option B results if the cross-sectional area is multiplied by the length and then divided by the mass. Option C results if the length is multiplied by the cross-sectional area.

Item 49

In this item students were required to determine by what percentage the tension on the A-string is greater than that on the E-string. To obtain the answer, subtract the tension on the E-string from the tension on the A-string, and then divide the difference by the tension on the E-string. Multiplying the result by 100 gives the percentage. Option B is the key. Option A results when the difference is divided by the tension on the A-string. Option C results when the tension on the A-string is divided by the sum of the tensions on the A- and E-strings and the result is multiplied by 100. Option D results when the tension on the E-string is divided by the tension on the A-string and the result is multiplied by 100.

Item 50

This item provides a series of steps that may be used to calculate the distances between the frets of a ukulele. The item required students to find the distance between the first and second frets of a ukulele with string length of 33 cm. The answer is obtained by dividing the string length by 17.817 and subtracting the result from the string length. The difference is again divided by 17.817, which gives the required answer of 1.75 cm. Option B is the key. Option A is ten times the difference between, on the one hand, the distance from the nut to the first fret, and on the other hand the distance from the first fret to the second fret. Option B is the distance from the nut to the first fret. Option D results when 17.817 is subtracted from the string length and then this is subtracted from 17.817.

MC II commentary

This section gives a brief outline of each unit. Unit 20 is singled out for detailed analysis.

Unit 11 *Heroes*

This unit consists of four quotations about heroes and heroism. Students were required to compare and contrast the meanings in these quotations.

Unit 12 *Taps*

This unit required students to understand flow rates and apply their understanding to specific scenarios.

Unit 13 *Charlie*

This unit is based on an extract from the short story *Babylon Revisited* by F Scott Fitzgerald. The scenario is a dialogue between three people in which there is significant underlying tension, which means that what they say and how they present is sometimes at odds with what they are thinking or feeling. Students were required to identify these subtextual cross-currents.

Unit 14 *Safe Leads*

In this unit students were required to manipulate complex formulas. The context is team sports, and specifically how to go about quantifying the probability that, at any given point in the game, one of the teams will go on to win.

Unit 15 *Cities*

The extract in this unit, from ‘urban anthropologist’ Lewis Mumford’s classic text *The City in History*, discusses a topic that is as relevant now as it was in the 1960s, i.e. how to build environmentally sustainable cities. The items in this unit required students to understand key ideas in the extract, and to draw correct inferences from them.

Unit 16 *Skyscraper Tiles*

This unit establishes a context within which students were required to use logic and visualisation. The scenario involves a variable number of blocks of different heights that can be ordered in any given way and then looked at from three different perspectives.

Unit 17 *Art and Aesthetics*

The extract in this unit comments on what the author considers to be an important shift in attitudes towards art — indeed, what the author might call the emergence of an idea about art that is still relevant to us — that took place over the course of the 18th and 19th centuries.

Unit 18 *Future Population*

The graph in this unit focuses on predictions of global populations over the next eighty years.

Unit 19 *Mrs Freeman*

The extract in this unit is from a short story by Flannery O'Connor and offers a deft, and rather humorous, study of one of the main characters.

Unit 20 *CC Numbers*

This arithmetic unit defines concatenated consecutive (CC) numbers by giving several examples of how they are formed by joining together sequences of consecutive whole numbers. The eight different five-digit CC numbers were enumerated with explanations. Prime numbers were also defined.

Some of the items in this unit are best approached by generating CC numbers of the required lengths and considering their attributes. Others require analysis of the options and finding which one is correct.

Item 94

Students were required to find how many of the eight possible two-digit CC numbers are prime. The numbers are 12, 23, 34, 45, 56, 67, 78 and 89. Because half of them are even (and hence not prime), only the four odd numbers need be considered. Of these, 45 is divisible by 5 while the others — 23, 67 and 89 — are prime. Option C is the key. Understanding the concept of prime numbers and being familiar with how to check for them by looking for factors were necessary in this item.

Item 95

This item required students to generate the three-digit CC number that is **not** divisible by 3. All the CC numbers formed from three consecutive single-digit numbers, e.g. 123, 345, 456, ... 789 are divisible by 3 as their digit-sums are 6, 9, 12, ... 24. The only other three-digit CC number is 910 which is not divisible by 3 as its digit-sum is 10. In option A, 21 does not divide into 910, in option C, 52 does not divide into 910 and in option D, 28 does not divide into 910. Option B is the key as 7, 26 and 35 all divide into 910.

Item 96

This item presents four six-digit CC numbers and students were required to find which one has a factor which is an odd CC number. The odd three-digit CC numbers are 123, 345, 567 and 789 and all are divisible by 3. The required option is therefore also divisible by 3 and this eliminates option D, whose digit-sum is 40. Checking options A, B and C shows that 787980 has 345 as a factor so the key is option C. The following method can also be used. Options A, B and C's digit-sums are 33, 33 and 39 respectively. All are also divisible by 5, so each can be divided by 15. The problem now reduces to finding which one of the numbers 38305, 39064 and 52532 is divisible by one of the numbers 123, 345, 567 or 789. This still could be arduous as potentially twelve divisions may be needed. However, as $123 = 3 \times 41$, each can be divided by 41 and this eliminates 123 as the required factor. The same shortcut can be used with $345 = 15 \times 23$ and since $52532 \div 23 = 2284$, it follows that 787980 has 345 as a factor and the key is option C.

Item 97

This item required students to generate the largest and smallest CC numbers with seven digits and subtract one from the other. Seven-digit numbers may be formed from 1 three-digit and 1 four-digit number [9991000, which is the highest of its kind]. At the other extreme, 7 single-digit numbers yield 1234567. As the other such seven-digit CC numbers start with 2 and 3, 1234567 is the smallest and the answer is $9991000 - 1234567 = 8756433$. Option D is the key. Option C results when 9899100 is used as the maximum seven-digit CC number. Option B uses 9101112 as the maximum seven-digit CC number. Option A uses 5678910 as the largest seven-digit CC number.

Item 98

This item required students to identify the three eight-digit CC numbers, that can be formed using concatenations of two- and three-digit numbers. These are 45678910, 67891011 and 89101112. The only digit that does not appear in any of these numbers is 3, so option B is the key.

Item 99

Students were required to generate the only eight-digit CC number of the fifth form. It is a concatenation of two- and three-digit consecutive numbers. An eight-digit CC number will need 1 two-digit and 2 three-digit numbers so it must start with 99. Once the number is identified as 99100101, it can be checked that only 383 will divide into it without remainder. Option A is the key.

Item 100

By elimination, option C is the key. The factor of option A (25462547) is 11. Option B has a digit-sum of 39 and so is divisible by 3. Option D (25522553) can be divided by 7 without remainder.

Common Curriculum Elements (CCEs) and the MC format

Of the 49 CCEs, the following cannot be tested directly in MC format, though a few CCEs such as graphing, summarising and manipulating equipment, may be tested at 'second order' i.e. indirectly:

- 11 *Summarising/condensing written text*
- 12 *Compiling lists/statistics*
- 13 *Recording/noting data*
- 14 *Compiling results in a tabular form*
- 15 *Graphing*
- 20 *Setting out/presenting/arranging/displaying*
- 21 *Structuring/organising extended written text*
- 22 *Structuring/organising a mathematical argument*
- 26 *Explaining to others*
- 27 *Expounding a viewpoint*
- 46 *Creating/composing/devising*
- 53 *Observing systematically*
- 55 *Gesturing*
- 57 *Manipulating/operating/using equipment*
- 60 *Sketching/drawing.*

These CCEs can be validly tested in SR format.