NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2014

MATHEMATICAL LITERACY: PAPER I

MARKING GUIDELINES

Time: 3 hours 150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

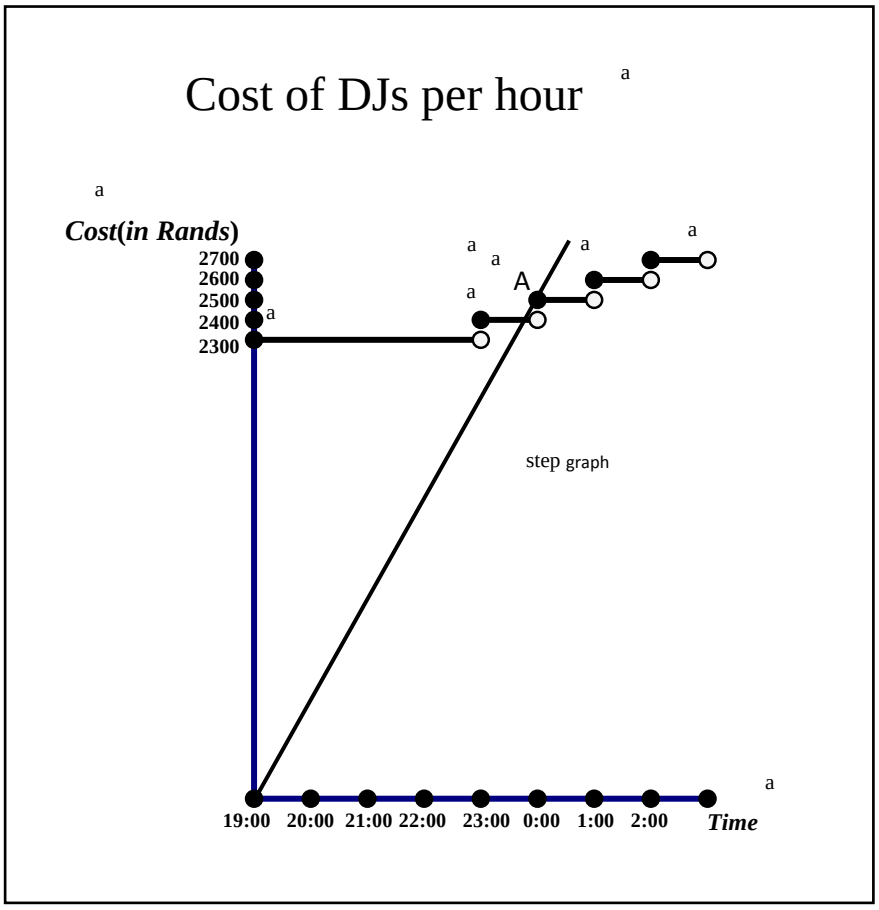
Key:

a	accuracy
ca	continued accuracy
m	method
ma	method accuracy
r	rounding
cap	continued accuracy based on previous answer

MA = Mark Allocation
AO = Answer Only
TL = Thinking Level

	QUESTION 1	
1.1.1	R 15 000 a a	2
1.1.2	Simple a a	2
1.1.3	R 24 000 a a	2
1.1.4	R 24 000 ca – R 15 000 m = R 9 000 ca	3
1.1.5	James' Account a a	2
1.2.1		4

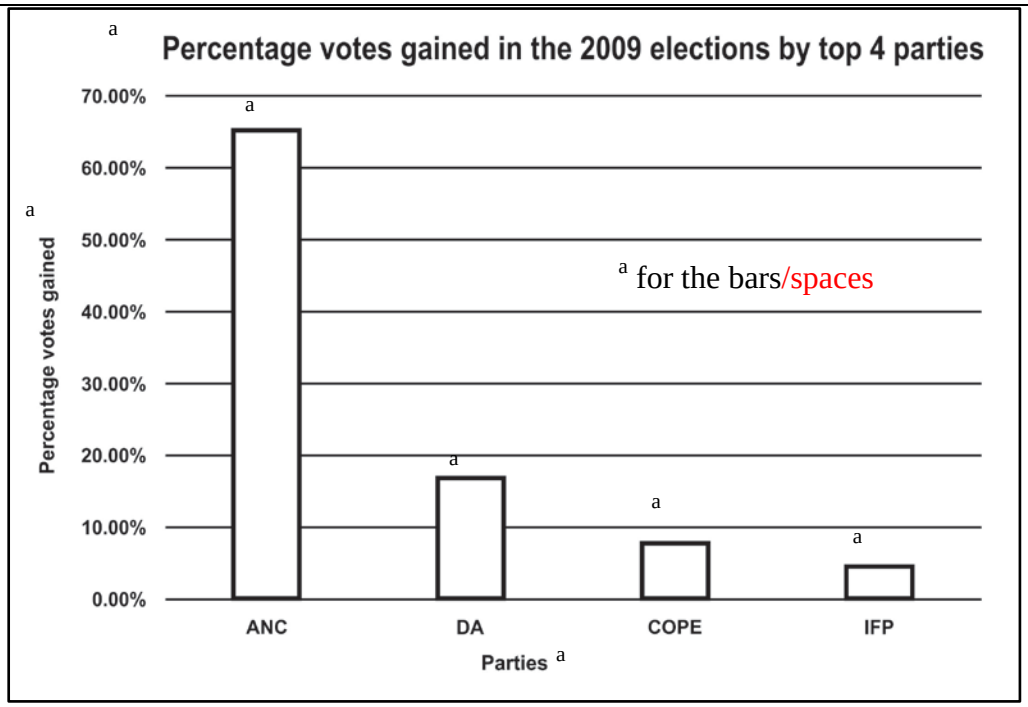
Time	19:00	20:00	21:00	22:00	23:00	00:00	01:00	02:00
Cost in Rands – DJ Amazing	2 300 or 0 a	2 300	2 300 a	2 300	2 400	2 500 a	2 600	2 700 a

1.2.2 (a) and (b)		10
1.2.3		
1.2.4	DJ Amazing ca ca	2
1.3.1	12/06/2014 a a	2

1.3.2	$16:03 - {}^{m}\ 14:12\ {}^{a} = 01:51\ {}^{a}$	3
1.3.3	R5 [a] + R6 [a] = R11,00 [ca]	3
1.4.1	$a = \frac{13}{100} \times R13\,560$ [m] $= R1\,762,80$ [a] b = R13 560 + R1 762,80 [m] = R15 322,80 [ca] $c = \frac{13}{100} \times R15\,322,80$ [m] = R1 991,96 [ca]	6
1.4.2	$12\,000 \times 15\%$ [m] = 1 800 [a]	2
1.4.3	R1 800 × 3 [m] = R5 400 [ca] 5 400 + 12 000 [m] = 17 400 [ca]	4
		[47]

	QUESTION 2	
2.1	3 bedrooms $^{a\ a}$	2
2.2	3 $^{a\ a}$	2
2.3.1	ℓ = 8,5 cm ^{a} (accept between 8,4 – 8,6) b = 5,7 cm ^{a} (accept between 5,6 – 5,8)	2
2.3.2	8,5 × 95 ^{m} = 807,5 cm = 8,075 m ^{m} 5,04 × 8,075 = 40,70 m^2 ^{ca} (accept between 40,22 – 41,18)	3
2.3.3	Vol = 5,04 × 8,075 × 0,1 ^{m} = 4,0698 ^{ca} = 4 ^{ca} (accept between 4,022 – 4,118) alt ans Vol = area × 0,1 = 40,70 × 0,1 ^{m} = 4,07 m^3 ^{ca} = 4 m^3 ^{ca}	3
2.3.4	1 *g* : 6 ml ÷ 1 000 ^{m} = 0,006 litres ^{a}	2
2.4.1	3 m ÷ 0,7 = 4,2 ∴ 4 boxes ^{a} 2 m ÷ 0,4 = 5 boxes ^{a}	2
2.4.2	4 × 5 × 2 ^{m} = 40 boxes ^{ca}	2
2.5.1	$\frac{3}{5}$ $^{a\ a}$	2
2.5.2	$\frac{3}{5}+\frac{2}{5}=\frac{5}{5}=1$ $^{a\ a\ a}$	3
		[23]

	QUESTION 3	
3.1	Windhoek and Gaborone [a a]	2
3.2	4 [a a] **OR** 3 and 1	2
3.3.1	Tripoli and Tunis [a a]	2
3.3.2	Paved [a a]	2
3.4	5 and 6 [a a]	2
3.5.1	a = 1 000 × 1 000 000 [ma] = 1 000 000 000 [a] b = 1 000 000 000 ÷ 20 [ma] = 50 000 000 [ca]	4
3.5.2	27 mm [a units] (accept 25 – 29)	2
3.5.3 (a)	50 000 000 × 27 [m] = 1 350 000 000 mm [ca]	2
3.5.3 (b)	1 350 000 000 mm ÷ 1 000 000 [ma] = 1 350 km [ca]	2
3.6	$\frac{16\ 750}{10}$ [m] = 1 675 hours [a]	2
		[22]

	QUESTION 4	
4.1.1	ANC $^{a\ a}$	2
4.1.2	2 945 829 $^{a\ a}$	2
4.1.3 (a) and (b)		8
4.2	$264+67+30+18$ $^{m\ a}$ $=379$ ^{ca}	3
4.3.1	Histogram ^{a} There is continuous data or the bars are touching or no spaces ^{a}	2
4.3.2	9 a.m. – 10 a.m. $^{a\ a}$	2
4.3.3	$\frac{2\,968+4\,312+5\,876+\ldots\,4\,111}{12}$ $^{a\ m\ a}$ $\frac{35\,616}{12}$ ^{a} = 2 968 voters per hour ^{ca}	5
4.3.4	$\frac{2\,968+4\,312+5\,876+1\,078+643+3\,542}{35\,616}\times 100$ $^{a\ m\ a}$ $\frac{18\,419}{35\,616}$ ^{a} $\times 100 = 51,72\%$ ^{ca}	5
4.3.5	5 876 $^{a\ m}$ – 435 = 5 441 ^{ca}	3
		[32]

	QUESTION 5	
5.1.1	Zimbabwe, Malawi, Zambia, South-Africa, Swaziland (any two) [a a]	2
5.1.2	East [a a]	2
5.2.1	7 250 000 [a a]	2
5.2.2	$\frac{7\ 250\ 000}{0{,}089}$ [m] $= R\ 81\ 460\ 674{,}16$ [a] $\frac{81\ 460\ 674{,}16}{1{,}84}$ [m] $= ¥\ 44\ 272\ 105{,}52$ [ca] OR $\frac{7{,}25\ \text{million}}{0{,}089} = 81{,}46\ \text{million}$ $\frac{81{,}46\ \text{million}}{1{,}84} = 44{,}27\ \text{million}$	4
5.3	$\frac{400\ 000 - 20\ 000}{20\ 000}$ [m] $\times 100 = 1900\%$ [a]	3
5.4.1	3 000 m [a] × 6 lanes = 18 000 m [a]	2
5.4.2	16 [a] ÷ 3,28 [m] $= 4{,}88\ m$ [a]	3
5.4.3 (a)	$3\ 000 \div 4{,}88$ [ca] $= 614{,}75$ [ca] ≈ 614 cars [ca]	3
5.4.3 (b)	614×6 [m] $= 3\ 684$ cars [ca]	2
5.4.4	3 684 ÷ 5 [m] = 736,8 [ca] = 736 cars [rounding]	3
		[26]

Total: 150 marks