## basic education

Department:
Basic Education REPUBLIC OF SOUTH AFRICA

## NATIONAL SENIOR CERTIFICATE

## GRADE 12



MARKS: 150

| SYMBOL |  |
| :--- | :--- |
| M | Method |
| MA | Method with accuracy |
| CA | Consistent accuracy |
| A | Accuracy |
| C | Conversion |
| S | Simplification |
| RT/RG | Reading from a table/graph/diagram |
| SF | Correct substitution in a formula |
| O | Opinion/Example/Definition/Explanation |
| P | Penalty, e.g. for no units/incorrect rounding off, etc. |
| R | Rounding off |
| NPR | No penalty rounding or omitting units |
| AO | Answer only, if correct, full marks |

This marking guideline consists of $\mathbf{1 6}$ pages.

| Question 1 [30 MARKS] |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques | Solution | Explanation | Topic/L |
| 1.1.1 | D $\checkmark \checkmark$ RT | 2RT correct letter (2) | $\begin{aligned} & \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.1.2 | $\mathrm{G} \checkmark \checkmark$ RT | 2 RT correct letter | $\begin{array}{\|l\|} \hline \mathrm{D} \\ \mathrm{~L} 1 \end{array}$ |
| 1.1.3 | C $\checkmark \checkmark$ RT | 2 RT correct letter | $\begin{aligned} & \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.2.1 | $\begin{aligned} \text { Profit } & =\text { R18 700-R } 14960 \quad \checkmark \mathrm{M} \\ & =\text { R } 3740 \checkmark \mathrm{~A} \end{aligned}$ | 1 M subtracting correct values 1 A calculating profit AO | $\begin{array}{\|l\|} \hline \text { F } \\ \text { L1 } \end{array}$ |
| 1.2.2 | $\left.\begin{array}{l} \overbrace{10: 15+5 \mathrm{~h} 50}^{\checkmark \mathrm{M}}=16: 05 \\ 16: 05 \text { OR } \quad 4: 05 \mathrm{pm} \\ \mathrm{vA} \end{array}\right)$ <br> OR 5 past 4 in the afternoon | 1 M adding <br> 1A correct time of sale | $\begin{aligned} & \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
| $\begin{aligned} & 1.2 .3 \\ & \text { (a) } \end{aligned}$ | $\begin{aligned} \text { Radius } & =32,8 \mathrm{~mm} \div 2 \quad \mathrm{MA} \\ & =16,4 \mathrm{~mm} \quad \checkmark \mathrm{CA} \end{aligned}$ | 1MA dividing diameter by 2 <br> 1CA radius | $\begin{aligned} & \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
| $\begin{aligned} & 1.2 .3 \\ & \text { (b) } \end{aligned}$ | $\begin{aligned} & \text { Distance }=(71,8 \mathrm{~mm}-32,8 \mathrm{~mm}) \div 2 \checkmark \mathrm{MA} \\ &=19,5 \mathrm{~mm} \checkmark \mathrm{CA} \\ & \text { OR } \\ & 71,8 \mathrm{~mm} \div 2=35,9 \mathrm{~mm} \quad \checkmark \mathrm{MA} \\ & \text { Distance }=35,9 \mathrm{~mm}-16,4 \mathrm{~mm} \\ &=19,4 \mathrm{~mm} \quad \checkmark \mathrm{CA} \end{aligned}$ | 1MA subtracting and dividing <br> 1CA distance <br> OR <br> 1MA subtracting and dividing <br> 1CA distance <br> AO | $\begin{aligned} & \hline \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| 1.3.1 | Cost of diluted juice per litre $\begin{aligned} & =\mathrm{R} 44,95 \div 14 \ell \quad \checkmark \mathrm{MA} \\ & =\mathrm{R} 3,210714286 \\ & \approx \mathrm{R} 3,21 \quad \checkmark \mathrm{CA} \end{aligned}$ | 1MA dividing <br> 1CA cost per litre <br> NPR <br> AO | $\begin{aligned} & \hline \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.3.2 | $\begin{gathered} 2 \ell: 12 \ell^{\checkmark \mathrm{A}} \\ 1: 6 \checkmark \mathrm{CA} \end{gathered}$ | 1A correct volume of water and order <br> 1CA simplification <br> Accept $\frac{1}{6}$ | $\begin{align*} & \mathrm{M}  \tag{2}\\ & \mathrm{~L} 1 \end{align*}$ |
| 1.3.3 | $\begin{aligned} \text { Number of glasses of juice } & =\frac{14}{0,175} \quad \checkmark \mathrm{MA} \\ & =80 \quad \checkmark \mathrm{CA} \end{aligned}$ | 1MA dividing the correct values <br> 1CA simplification to a whole number <br> AO | $\begin{aligned} & \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.4.1 |  | 1 RT all values 1MA ascending order | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.4.2 | July OR $7^{\text {th }}$ month $\checkmark \checkmark$ A | 2A correct month (2) | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.4.3 | $9 \quad \checkmark \checkmark \mathrm{~A}$ | 2A correct mode | $\begin{array}{\|l\|} \hline \mathrm{D} \\ \mathrm{~L} 1 \end{array}$ |
| 1.4.4 | April OR $4^{\text {th }}$ month ${ }^{\checkmark} \checkmark$ A | 2A correct month | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 1.4.5 | $\checkmark$ A <br> May and July $\checkmark$ A <br> OR $5^{\text {th }}$ month and $7^{\text {th }}$ month | 1A May <br> 1A July | $\begin{array}{\|l\|} \hline \mathrm{D} \\ \mathrm{~L} 1 \end{array}$ |
|  |  | [30] |  |


| QUESTION 2 [46 MARKS] |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques | Solution | Explanation | Topic/L |
| 2.1.1 | R465,00 $\checkmark \checkmark$ RT | 2RT correct bus fare | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 2.1.2 | $\stackrel{\checkmark \text { RT }}{\text { Queenstown and King William's Town }} \stackrel{\checkmark \text { RT }}{ }$ | 2RT correct cities | $\begin{array}{\|l\|} \hline \text { F } \\ \text { L1 } \end{array}$ |
| $\begin{aligned} & 2.1 .3 \\ & \text { (a) } \end{aligned}$ | Port Elizabeth to Bloemfontein $=$ R435,00 $\checkmark \mathrm{RT}$ $\begin{aligned} \text { Cost } & =\mathrm{R} 755,00-\mathrm{R} 435,00 \\ & =\mathrm{R} 320,00 \checkmark \mathrm{CA} \end{aligned}$ | 1RT R435 <br> 1CA cost <br> Accept trial and error method | $\begin{array}{\|l\|} \hline \text { F } \\ \text { L1 } \end{array}$ |
| 2.1.3 <br> (b) | King William's Town $\checkmark \checkmark$ RT | CA from Q2.1.3(a) 2RT correct city | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 2 \end{aligned}$ |
| 2.1.4 | $\begin{aligned} & \text { Cost excluding VAT } \\ & =\mathrm{R} 365,00 \times \frac{100 \checkmark \mathrm{M}}{114} \checkmark \mathrm{M} \\ & =\mathrm{R} 320,175 \ldots \approx \mathrm{R} 320,18 \checkmark \mathrm{CA} \end{aligned}$ <br> OR <br> Cost excluding VAT $=\frac{\mathrm{R} 365}{1,14} \checkmark \mathrm{M} \quad \approx \mathrm{RA} 320,18 \checkmark \mathrm{CA}$ <br> OR <br> 114:365 = 100:x $\quad x=$ price excl. VAT $\checkmark \mathrm{M}$ $\begin{aligned} x & =\mathrm{R} 365,00 \times \frac{100}{114} \checkmark \mathrm{M} \\ & =\mathrm{R} 320,175 \ldots \quad \approx \mathrm{R} 320,18 \checkmark \mathrm{CA} \end{aligned}$ <br> OR $\mathrm{VAT}=\mathrm{R} 365 \times \frac{14}{114} \quad \checkmark \mathrm{M}=\mathrm{R} 44,82$ $\checkmark \mathrm{M} \quad \checkmark \mathrm{CA}$ <br> Cost excluding VAT $=$ R365 $-\mathrm{R} 44,82 \approx \mathrm{R} 320,18$ | $\begin{aligned} & 1 \mathrm{M} \times 100 \\ & 1 \mathrm{M} \div 114 \end{aligned}$ <br> 1CA simplification <br> OR <br> 1M dividing <br> 1MA 1,14 <br> 1CA simplification <br> OR <br> 1 M proportion <br> 1M $x$ as subject of formula 1CA simplification OR <br> 1 M multiplying with ratio <br> 1M subtracting VAT 1CA simplification <br> NPR <br> AO | $\begin{array}{\|l\|} \hline \mathrm{F} \\ \mathrm{~L} 2 \end{array}$ |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| 2.1.5 | From Queenstown to Bloemfontein return trip |  | F |
|  | $\begin{array}{r} \checkmark \mathrm{RT} \\ =\mathrm{R} 410 \times 2 \end{array}$ | 1RT correct fare | L2 |
|  | $=\mathrm{R} 820 \quad \checkmark \mathrm{CA}$ | 1CA for calculating the return trip |  |
|  | Total travelling cost |  |  |
|  | $=12 \times \mathrm{R} 820 \quad \checkmark \mathrm{M}$ | 1 M multiplying by 12 |  |
|  | $=\mathrm{R} 9840 \quad \checkmark \mathrm{CA}$ | 1CA total cost |  |
|  | OR | OR |  |
|  | Number of trips $=2 \times 12 \quad \checkmark \mathrm{M}$ | 1 M multiplying by 12 |  |
|  | $=24 \quad \checkmark \mathrm{CA}$ | 1CA total trips |  |
|  | Total travelling cost $=24 \times \mathrm{R} 410 \quad \checkmark \mathrm{RT}$ | 1RT correct fare |  |
|  | $=\mathrm{R} 9840 \quad \checkmark \mathrm{CA}$ | 1CA total cost |  |
|  | OR | OR |  |
|  | One way cost for a year $\begin{gathered} \checkmark \mathrm{RT} \\ =\mathrm{R} 410 \times 12 \checkmark \mathrm{M} \end{gathered}$ | 1RT correct fare 1 M multiplying with 12 |  |
|  | $=\mathrm{R} 4920$ |  |  |
|  | Total traveling cost |  |  |
|  | $=\mathrm{R} 4920 \times 2 \quad \checkmark \mathrm{M}$ | 1M multiplying with 2 |  |
|  | $=\text { R9 } 840 \checkmark \mathrm{CA}$ | 1CA total cost |  |
|  | OR | OR |  |
|  | $\text { Traveling cost }=\stackrel{\vee \mathrm{RT}}{\mathrm{R} 410 \times 2 \times 12 \quad \checkmark \mathrm{M}}$ | 1RT correct fare <br> 1 M multiplying with 2 |  |
|  | $=\mathrm{R} 9840 \checkmark \mathrm{CA}$ | 1 M multiplying with 12 1CA cost <br> AO |  |
|  |  | (4) |  |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| 2.2.1 | $\checkmark$ RT <br> July 2013 <br> $\checkmark$ RT$\quad$ OR $07 / 2013$ OR $07 / 13$ | 1RT month <br> 1RT year | $\begin{aligned} & \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.2 | $\begin{aligned} & \text { Water and Sewerage } \checkmark \mathrm{RT} \\ & \text { Refuse Removal } \checkmark \mathrm{RT} \end{aligned}$ | 1RT water and/or sewerage 1RT refuse Penalty for including property rates | $\begin{aligned} & \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.3 | $\begin{aligned} & \text { November }=3 \text { days, December }=20 \text { days } \quad \checkmark \mathrm{M} \\ & \text { end date 2016/12/20 OR } 20 \text { December } 2016 \quad \checkmark \mathrm{~A} \end{aligned}$ | 1M adding <br> 1A end date 20 Dec <br> Accept 19 Dec $\mathrm{AO}$ | $\begin{aligned} & \hline \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.4 | Daily average consumption $\begin{aligned} & \quad \stackrel{\vee \mathrm{RT}}{ }=12,00 \mathrm{k} \ell \div 23 \text { days } \quad \checkmark \mathrm{M} \\ & \approx 0,522 \mathrm{k} \ell \end{aligned}$ <br> OR <br> Verifying the consumption rate per day: $\begin{aligned} & \quad \checkmark \mathrm{RT} \\ & =12,00 \mathrm{k} \mathrm{\ell} \div 0,522 \mathrm{k} \mathrm{\ell} / \text { day } \quad \checkmark \mathrm{M} \\ & \approx 23 \text { days } \\ & \\ & 0,522 \mathrm{k} \mathrm{\ell} / \text { day } \times 23 \text { days } \checkmark \mathrm{M} \\ & \approx 12,00 \mathrm{k} \mathrm{\ell} \checkmark \mathrm{~A} \end{aligned}$ | 1RT correct value <br> 1 M dividing in correct order <br> OR <br> 1RT correct value <br> 1 M dividing in correct order <br> OR <br> 1M multiplying <br> 1A volume | $\begin{aligned} & \hline \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.5 | Water $\checkmark \mathrm{R}$ <br> The amount of water consumption is not the same every month. $\checkmark \checkmark \mathrm{O}$ | 1R variable expense <br> 2 O explanation clearly showing change | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & 2.2 .6 \\ & \text { (a) } \end{aligned}$ | $\begin{aligned} \mathrm{A} & =\mathrm{R} 690000 \times \mathrm{RT} 0,0069160 \div 12 \\ & =\mathrm{R} 397,67 \checkmark \mathrm{CA} \end{aligned}$ | 1RT all values from bill <br> 1CA simplification Note value for B can be used to calculate A $\mathrm{AO}$ | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |
| $2.2 .6$ <br> (b) | $\begin{aligned} \mathrm{B} & =\mathrm{R} 397,67-\mathrm{R} 115,27 \checkmark \mathrm{M} \\ & =\mathrm{R} 282,40 \checkmark \mathrm{CA} \\ \mathrm{~B} & =\mathrm{R} 880,10-\mathrm{R} 167,58-\mathrm{R} 430,12 \checkmark \mathrm{M} \\ & =\mathrm{R} 282,40 \checkmark \mathrm{CA} \end{aligned}$ | 1 M subtracting correct values 1CA simplification <br> OR <br> 1 M subtracting correct values 1CA simplification AO | $\begin{aligned} & \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.7 | $\begin{aligned} & \text { Sewerage rate per } \mathrm{m}^{2}=\frac{\mathrm{R} 298,36}{463} \quad \checkmark \mathrm{RT} \\ & =\mathrm{R} 0,6444060475 \quad \checkmark \mathrm{~A} \\ & \quad \checkmark \mathrm{RT} \quad \text { OR } \\ & 463 \mathrm{~m}^{2}: \mathrm{R} 298,36 \\ & 1 \mathrm{~m}^{2}: \mathrm{R} 0,6444 \ldots \quad \mathrm{~A} \end{aligned}$ | 1RT correct values <br> 1A simplification <br> OR <br> 1RT Correct values <br> 1A simplification <br> NPR <br> AO | $\begin{aligned} & \hline \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.2.8 | R919,33 $\checkmark \checkmark$ RT | 2RT unpaid amount | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 2.2.9 | Rounding up $\checkmark \checkmark \mathrm{A}$ <br> OR <br> Rounding (off) to the nearest R10,00 <br> OR <br> Rounding (off) to the nearest R100,00 | 2A Rounding up <br> OR <br> 1A rounding 1A nearest 10 rand OR 1A rounding 1A nearest 100 rand | $\begin{aligned} & \text { F } \\ & \text { L1 } \end{aligned}$ |
| 2.3.1 | $\begin{aligned} \text { Commission } & =1,95 \% \times £ 360,00 \checkmark \mathrm{MA} \\ & =£ 7,02 \checkmark \mathrm{~A} \end{aligned}$ | 1MA calculating \% <br> 1A commission in pound AO | $\begin{aligned} & \hline \mathrm{F} \\ & \mathrm{~L} 1 \end{aligned}$ |



| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
|  | $\begin{aligned} \text { Interest after } 1 \text { year } & =\text { R5 } 000 \times 6,3 \% \\ & =\text { R315 } \quad \checkmark \mathrm{M} \end{aligned}$ $\begin{aligned} \text { Amount after year } 1 & =\mathrm{R} 5000+\mathrm{R} 315 \\ & =\mathrm{R} 5315,00 \quad \checkmark \mathrm{~A} \end{aligned}$ $\begin{aligned} & \text { Second year interest rate }=\frac{6,3 \%}{2} \quad \checkmark \mathrm{M} \\ & =3,15 \% \quad \checkmark \mathrm{CA} \\ & \begin{aligned} \text { Interest for } \frac{1}{2} \text { year } & =\mathrm{R} 5315 \times 3,15 \% \\ & \approx \mathrm{R} 167,42 \end{aligned} \end{aligned}$ $\begin{aligned} \text { Value of the fixed deposit } & =\text { R5 } 315+\mathrm{R} 167,42 \\ & =\text { R5 } 482,42 \checkmark \mathrm{CA} \end{aligned}$ <br> OR <br> Amount after year $1=$ R5 $000(1+0,063)^{\checkmark} \mathrm{M}$ $=\text { R5 315,00 } \quad \checkmark \mathrm{A}$ <br> Value of fixed deposit after $1 \frac{1}{2}$ years $\begin{aligned} & =\mathrm{R} 5315\left(1+\frac{0,063}{2}\right) \checkmark \mathrm{M} \\ & \approx \mathrm{R} 5482,42 \checkmark \mathrm{CA} \end{aligned}$ | 1M calculate interest for first year 1A simplification $1 \mathrm{M} 2^{\text {nd }}$ year rate 1CA half year interest <br> 1CA simplification <br> OR <br> 1M calculate amount for first year 1A simplification $1 \mathrm{CA} 2^{\text {nd }}$ year amount 1M half year 1CA simplification |  |
|  |  | [46] |  |


| QUESTION 3 [21 MARKS] |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques | Solution | Explanation | Topic/L |
| 3.1.1 | $\begin{aligned} & \text { Number of tables }=240 \div 8=30 \checkmark \mathrm{~A} \\ & \text { Number of balloons }=4 \times 30=120 \checkmark \mathrm{CA} \end{aligned}$ | 1 A correct number of tables <br> 1CA minimum number of balloons $\square$ | $\begin{aligned} & \hline \text { M } \\ & \text { L1 } \end{aligned}$ |
| 3.1.2 | Length of decorative ribbon in cm $\begin{aligned} & =2 \times(\text { length }+ \text { width })+1 \\ & =2 \times(10+6 \mathrm{SF})+1=33 \checkmark \mathrm{~A} \end{aligned}$ | 2SF substituting correct values into the formula 1A minimum length AO | $\begin{aligned} & \hline \text { M } \\ & \text { L2 } \end{aligned}$ |
| 3.1.3 | $\begin{aligned} \text { Volume } & =\pi \times(\text { radius })^{2} \times \text { height } \\ & =3,142 \times(6 \mathrm{~A} \mathrm{~cm})^{2} \times 28 \mathrm{SF} \\ & =3167,136 \mathrm{~cm}^{3} \checkmark \mathrm{CA} \end{aligned}$ | 1A radius 1SF correct height and 3,142 <br> 1CA simplification <br> NPR | $\begin{aligned} & \hline \text { M } \\ & \text { L2 } \end{aligned}$ |
| 3.1.4 |  | 1 A calculating $45 \%$ <br> 1M multiply by rate <br> 1CA mass in grams <br> 1 C converting to kg to 2 decimal places <br> OR <br> 1 C converting to kg <br> 1 A calculating $45 \%$ <br> 1 M multiplying with the rate <br> 1 CA mass in kg to 2 dec. places OR | $\begin{aligned} & \mathrm{M} \\ & \mathrm{~L} 2 \end{aligned}$ |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
|  | Mass of sand in a full vase $\begin{aligned} & =1680 \mathrm{~cm}^{3} \times 1,53 \mathrm{~g} / \mathrm{cm}^{3} \quad \checkmark \mathrm{M} \\ & =2570,4 \mathrm{~g} \\ & =2,5704 \mathrm{~kg} \\ & \checkmark \mathrm{C} \end{aligned}$ <br> Mass of sand if filled to $45 \%$ $\begin{aligned} & =2,5704 \mathrm{~kg} \times 45 \% \\ & =1,16 \mathrm{~kg} \checkmark \mathrm{CA} \end{aligned}$ | 1 M multiplying with the rate 1A mass 1C conversion <br> 1CA mass of sand to two decimal places |  |
| 3.2.1 | $\begin{aligned} \text { Area of triangle } & =\frac{1}{2} \times 4 \mathrm{~cm} \times 3,464 \mathrm{~cm} \\ & =6,928 \mathrm{~cm}^{2} \checkmark \mathrm{CA} \end{aligned}$ | 1 A substituting correct values in formula 1RT height 1CA simplification NPR AO | $\begin{aligned} & \hline \text { M } \\ & \text { L2 } \end{aligned}$ |
| 3.2.2 | Total surface Area of a triangular prism | CA from Q3.2.1 <br> 1CA substituting area of triangle <br> 1 SF substituting correct values in formula 1CA simplification 1CA total surface area | $\begin{aligned} & \hline \text { M } \\ & \text { L3 } \end{aligned}$ |
| 3.2.3 | $30 \text { minutes }=1800 \text { seconds } \checkmark \mathrm{C}$ <br> Average time to cover 1 box $=\frac{1800}{20}$ seconds $=90 \text { seconds } \checkmark \mathrm{CA}$ <br> OR <br> Average time to cover 1 box $\begin{align*} & =\frac{30 \mathrm{~min}}{20}=1,5 \mathrm{~min} \checkmark \mathrm{M} \\ & =1,5 \mathrm{~min} \times 60 \mathrm{sec} / \mathrm{min}=90 \text { seconds } \checkmark \mathrm{C} \tag{2} \end{align*}$ | 1 C conversion to seconds <br> 1CA simplification <br> OR <br> 1M time per box <br> 1C conversion <br> AO | $\begin{aligned} & \hline \mathrm{M} \\ & \mathrm{~L} 1 \end{aligned}$ |
|  |  | [21] |  |

## QUESTION 4 [27 MARKS]

NOTE :MPU \& NC maximum [23 MARKS] to be scaled to 27 MARKS

| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| 4.1.1 | $\checkmark \checkmark \mathrm{A}$ <br> Bar scale OR Scaled bar OR Linear scale OR Graphical scale | 2A identifying type of scale <br> (2) | $\begin{aligned} & \text { M\&P } \\ & \text { L1 } \end{aligned}$ |
| 4.1.2 | Top view OR Aerial view OR Bird's eye view $\checkmark \checkmark$ A OR Satelite view | 2A correct view of the map | $\begin{aligned} & \text { M\&P } \\ & \text { L1 } \end{aligned}$ |
| 4.1.3 | South East OR SE OR East of South | 2A identifying correct direction | $\begin{align*} & \hline \text { M\&P }  \tag{2}\\ & \text { L1 } \end{align*}$ |
| 4.1.4 | $5 \checkmark \checkmark$ A | 2A exact number of medical points <br> Accept 4 (2) | $\begin{aligned} & \text { M\&P } \\ & \text { L2 } \end{aligned}$ |
| 4.1.5 | Mowbray and Observatory | 2A identifying correct suburbs Accept Maitland and Saltriver | $\begin{aligned} & \hline \text { M\&P } \\ & \text { L1 } \end{aligned}$ |
| 4.1.6 | Castle $\stackrel{\checkmark \mathrm{A}}{\mathrm{De}}$ Goede Hoop, Old Biscuit Mill , Planetarium OR 4, 5 and 6 | 3A identifying correct tourist attractions | $\begin{aligned} & \hline \text { M\&P } \\ & \text { L2 } \end{aligned}$ |


| Ques | Solution | Explanation | Topic/L |
| :---: | :---: | :---: | :---: |
| 4.2.1 | $\mathrm{D} ; \underbrace{\mathrm{B} ; \mathrm{E} ; \mathrm{A} ; \mathrm{C} \checkmark \mathrm{~A}}_{\checkmark \mathrm{A}}$ | NOTE: <br> [MPU \& NC not to be marked] | $\begin{aligned} & \text { M\&P } \\ & \text { L2 } \end{aligned}$ |
|  |  | 1A order BEA <br> 1A end with C |  |
| 4.2.2 | E OR B $\checkmark \checkmark$ A | NOTE: <br> [MPU \& NC not to be marked] | M\&P <br> L1 |
|  |  | 2A correct letter |  |
| 4.2.3 <br> (a) | $0 \%$ OR Impossible OR 0 OR $\frac{0}{130}$ OR None | 2A probability (2) | $\begin{aligned} & \mathrm{P} \\ & \mathrm{~L} 2 \end{aligned}$ |
| 4.2.3 <br> (b) | Total blocks $=20+25+28+30+27=130 \checkmark \mathrm{~A}$ Probability of taking out a blue block $=\frac{25}{130} \checkmark \mathrm{~A}$ <br> OR $\frac{5}{26} \quad$ OR $\quad 19,23 \% \quad$ OR $\quad 0,19$ | 1A total 130 <br> 1A numerator <br> 1A denominator <br> AO | $\begin{aligned} & \hline \mathrm{P} \\ & \mathrm{~L} 2 \end{aligned}$ |
| 4.2.4 <br> (a) | $\begin{aligned} \text { Number of layers } & =35 \mathrm{~cm} \stackrel{\text { MA }}{\div} 16, \\ & =2,12 \ldots \approx 2 \quad \checkmark \mathrm{CA} \end{aligned}$ | 1MA dividing correct values 1CA exact number of layers AO | $\begin{aligned} & \hline \text { M\&P } \\ & \text { L1 } \end{aligned}$ |
| 4.2.4 <br> (b) | Number of cans which can be packed lengthwise $\begin{aligned} & =56 \mathrm{~cm} \div 12,6 \mathrm{~cm} \checkmark \mathrm{MA} \\ & =4,444 \ldots \approx 4 \end{aligned}$ <br> Number of cans which can be packed width-wise $\begin{aligned} & =41 \mathrm{~cm} \div 12,6 \mathrm{~cm} \\ & =3,253 \ldots \approx 3 \checkmark \mathrm{~A} \end{aligned}$ <br> Maximum number of cans $=4 \times 3 \times 2=24^{\checkmark}$ CA | 1MA dividing the width or length by 2,6 <br> 1A rounding both down to whole numbers <br> 1CA for max number of cans AO | $\begin{aligned} & \text { M\&P } \\ & \text { L3 } \end{aligned}$ |
|  |  | [27] |  |


| QUESTION 5 [26 MARKS] |  |  |  |
| :---: | :---: | :---: | :---: |
| Ques | Solution | Explanation | T/L |
| 5.1.1 | Broken line graph OR line graph $\checkmark \checkmark$ A | 2A correct type of graph | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 5.1.2 | $\begin{aligned} \text { Number of candidates } & =287453+389615 \\ & =677068 \checkmark \mathrm{CA} \end{aligned}$ | 1M adding Math and Math Lit 1CA max number of candidates AO | $\begin{array}{\|l\|} \hline \mathrm{D} \\ \mathrm{~L} 2 \end{array}$ |
| 5.1.3 | 100\% OR 1 OR certain OR definite $\checkmark \checkmark$ A | ct probability | $\begin{aligned} & \hline \mathrm{P} \\ & \mathrm{~L} 2 \end{aligned}$ |
| 5.1.4 | $\checkmark$ RT $\checkmark$ RT $\quad \checkmark$ RT <br> Accounting, Business Studies, Economics and Mathematical Literacy | 1RT $1^{\text {st }}$ subject 1RT $2^{\text {nd }}$ subject 1RT last two subjects | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
|  |  | (3) |  |
| 5.1.5 | Mathematics $\checkmark \checkmark$ RT | 2RT correct subject | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 5.1.6 | The data of one variable is grouped into subjects <br> OR <br> The data of one variable is not numerical $\checkmark \checkmark \mathrm{A}$ | 2A explanation | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 5.1.7 | Business Studies $\checkmark \checkmark$ RT | 2RT correct subject | $\begin{array}{\|l\|} \hline \mathrm{D} \\ \mathrm{~L} 1 \end{array}$ |


| Ques | Solution | Explanation | T/L |
| :---: | :---: | :---: | :---: |
| 5.2.1 | Copyright payments, advertising costs, bursary, grants etc. <br> (OR any other valid expenditure) | 2 O an example of other type of expenditure | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 1 \end{aligned}$ |
| 5.2.2 | $\begin{aligned} & \begin{array}{l} \text { Donations } \\ =[\mathrm{R} 63-(\mathrm{R} 27,09+\mathrm{R} 21,02+\mathrm{R} 3,78)] \text { billion } \end{array} \\ & =\mathrm{R} 11,11 \text { billion } \checkmark \mathrm{CA} \\ & \text { Percentage donations }=\frac{11,11}{63} \times 100 \% \\ & \approx 17,6 \% \quad \checkmark \mathrm{CA} \end{aligned}$ <br> OR $\begin{aligned} & \mathrm{R} 27,09+21,02+3,78 \\ & =\text { R } 51,89 \text { billion } \end{aligned}$ <br> Percentage income shown $\begin{aligned} & =\frac{\mathrm{R} 51,89}{\mathrm{R} 63} \times 100 \% \\ & \approx 82,4 \% \checkmark \mathrm{M} \end{aligned}$ <br> Percentage donations $\begin{aligned} & =100 \%-82,4 \% \checkmark \mathrm{M} \\ & =17,6 \% \quad \checkmark \mathrm{CA} \end{aligned}$ <br> OR <br> Percentage $\begin{aligned} & =\frac{\mathrm{R} 27,09}{\mathrm{R} 63} \times 100 \%=43 \% \checkmark \mathrm{M} \\ & \frac{\mathrm{R} 21,02}{\mathrm{R} 63} \times 100 \% \approx 33,365 \% \\ & \frac{\mathrm{R} 3,78}{\mathrm{R} 63} \times 100 \%=6 \% \end{aligned}$ <br> Percentage donations $\begin{aligned} & =100 \%-(43 \%+33,4 \%+6 \%) \checkmark \mathrm{M} \\ & =17,6 \% \quad \checkmark \mathrm{CA} \end{aligned}$ | 1M subtracting from R63 billion 1CA simplification in billions <br> 1CA donations as a \% <br> OR <br> 1M percentage income shown 1 M subtracting from $100 \%$ 1CA simplification <br> OR <br> 1M percentage calculation <br> 1 M subtracting from $100 \%$ <br> 1CA simplification <br> NPR <br> AO | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 2 \end{aligned}$ |


| Ques | Solution | Explanation | T/L |
| :---: | :---: | :---: | :---: |
| 5.2.3 |  | 1RT correct amount <br> 1 M multiplying with $0,7 \%$ <br> 1CA interest amount <br> OR <br> 1RT correct amount 1 M multiplying with $0,7 \%$ 1CA interest amount | $\begin{aligned} & \hline \text { F } \\ & \text { L1 } \end{aligned}$ |
| 5.2.4 | $\begin{aligned} \text { Difference } & =\text { income }- \text { expenditure } \\ & \checkmark \mathrm{M} \\ & =\text { R } 63 \text { billion }- \text { R54, } 1 \text { billion } \\ & =\text { R } 8,9 \text { billion } \checkmark \mathrm{CA} \\ & =\text { R } 8900 \text { million OR R } 8900000000 \end{aligned}$ <br> OR $\begin{aligned} & \text { Difference }=\text { income }-\underset{\sim}{\text { expenditure }} \begin{aligned} \checkmark \mathrm{M} \end{aligned} \stackrel{\checkmark \mathrm{C}}{ } \\ &=\text { R63 } 000 \text { million }-\mathrm{R} 54100 \text { million } \\ & \checkmark \mathrm{CA} \\ &=\text { R8 } 900 \text { million OR R8 } 900000000 \end{aligned}$ | 1 M subtracting <br> 1CA simplification in billions <br> 1C for difference in millions <br> OR <br> 1 M subtracting <br> 1 C converting to millions <br> 1CA difference in millions | $\begin{aligned} & \hline \mathrm{D} \\ & \mathrm{~L} 2 \end{aligned}$ |
|  |  | [26] |  |
|  |  | TOTAL: 150 |  |

