Marks: 75

## QUESTION 1 - MULTIPLE CHOICE

1.1. A
1.2. $C \vee$
1.3. A
1.4. $\quad B \vee$
1.5. C
1.6. A
1.7. $\quad \mathrm{D} \vee$
1.8. C V
1.9. C V
1.10. B $\vee$
1.11. C
1.12. A
1.13. B $\vee$
1.14. A
1.15. A

## QUESTION 2 - MAP CALCULATIONS

2.1. $0,6 \mathrm{~cm} \times 0,5=0,3 \mathrm{~km} \checkmark$
$0,3 \times 1000 \vee=300 \mathrm{~m} \vee$ (accept answers in the range 250m-300m)
2.2. $G=\frac{H}{D}$

$$
\begin{aligned}
H & =1701-1693 \\
& =8 \mathrm{~m} \\
D & =2,7 \times 0,5 \\
& =1,35 \times 1000 \\
& =1350 \mathrm{~m}
\end{aligned}
$$

$$
G=\frac{8}{1350} \div \frac{8}{8}
$$

$$
G=1: 168,75
$$

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2.3. Length : 24 x 0,5=12 km \checkmark (accept 11,95 km to 12,05 km)
    Breadth: 18,5 x 0,5 = 9,25 km \checkmark (accept 9,2 km to 9,3 km)
A = l x b
    = 12\times9,25 \checkmark
    = 111 km
2.4. \(2017-2001=16\) years \(\checkmark\)
\(16 \times 8^{\prime}=128^{\prime}\) change \(\checkmark\)
\(20^{\circ} 28^{\prime}+128^{\prime}=22^{\circ} 36^{\prime} \checkmark \mathrm{W}\) of TN \(\checkmark\)
2.5. \(\mathrm{MB}=\mathrm{TB}+\mathrm{MD}\)
\(\mathrm{TB}=90^{\circ} \vee\) (accept 1 degree leeway either side)
\[
\begin{align*}
\mathrm{MB} & =90^{\circ}+22^{\circ} 36^{\prime} \\
& =102^{\circ} 36^{\prime} \tag{3}
\end{align*}
\]
2.6. \(28^{\circ} 16^{\prime} 45^{\prime \prime} \mathrm{S} \vee\left(\right.\) accept \(43^{\prime \prime}\) to \(\left.47^{\prime \prime}\right) ; 29^{\circ} 05^{\prime} 46^{\prime \prime} \mathrm{E} \vee\left(\right.\) accept \(44^{\prime \prime}\) to \(\left.48^{\prime \prime}\right)\)

\section*{QUESTION 3 - APPLICATION AND INTERPRETATION}
3.1. Water for irrigation for farms

Recreation (swimming, fishing, skiing)
For domestic use by the families living on the farms \(\checkmark \checkmark\) (any two)
(Dams are not big enough for large-scale domestic use or hydro-electric power)
(2x2)
3.2. Non-perennial \(\checkmark \checkmark\)

The river only flows during the wet / rainy season \(\checkmark\)
3.3.
3.3.1. Manufacturing \(\checkmark \checkmark\)
3.3.2. Land, water or air pollution \(\checkmark \checkmark\)

Chemicals in the soil and water \(\checkmark \checkmark\)
Noise pollution \(\checkmark \checkmark\)
Expansion of the industrial area may lead to removal of natural vegetation and soil
erosion \(\downarrow \checkmark(\) any TWO suitable answers)
3.3.3. The train station is located in the industrial area, which is ideal for transporting manufactured goods to domestic markets.
(accept any suitable explanation.)
3.4.
3.4.1. Sketch:


2 marks for correct shape of slope
1 mark for labels \(A\) and \(B\)
3.4.2. Labels on diagram (1 mark each).
3.4.3. Rockfalls \(\checkmark\)
3.5. Any suitable tertiary activity (e.g. hospitals, schools, sewage works, electricity lines) \(\checkmark\)

\section*{QUESTION 4 - GIS}
4.1. The GIS is a geographical information system.

This system is accessible from any computer and provides all information known about any place in the world.

Information can be accessed by inputting coordinates \(\checkmark\)
Information can be viewed in "layers" to give an accurate picture of a location \(\checkmark\)
(Any two correct points)
(2x1)
4.2. Satellites take photos of Earth from space \(\checkmark \checkmark\)
4.3. Spatial - describes the location of features using co-ordinates \(\checkmark \checkmark\)

Attribute - information about or values given to an area or place \(\checkmark \checkmark\)
4.4.
4.4.1. Point: e.g. school, police station, spot height \(\checkmark\)

Line: e.g. road, river, electrical lines \(\checkmark\)
Polygon (area): e.g. golf course, dam \(\downarrow\)
4.4.2. The entrepreneur could get information on:

Location of existing burger restaurants \(\checkmark \checkmark\)
Location of middle- and high-income suburbs \(\checkmark \checkmark\)
Existing infrastructure
Main transport routes \(\checkmark \checkmark\)
Suppliers \(\downarrow\)
Population numbers \(\checkmark\)
Travel habits \(\checkmark \checkmark\)
(any TWO suitable answers)```

