Topic 10 Constructions and loci (Pre-TT) [23] MARKSCHEME

1.

arcs cutting BA & BC, of equal radius from B, then crossing arcs   M1
tolerance ± 2mm on equal radii

bisector within 2° of correct   A1

[2]

2.

(a)   Equal arcs from *L* and *M*   M1
Arcs greater than 0.5LM within 2 mm
Must have two intersections

        Perpendicular drawn   A1

(b)   Equidistant from 2 fixed points   B1
oe

[3]

3.

[ ]

Line 4cm, arcs 6cm (above)   B1
All ± 2mm

Complete triangle   B1

Arcs 6cm (below)   B1

Complete rhombus   B1

or line 6cm, arcs 4cm and 6cm   B1
or line 2cm, construction 90°

Complete triangle   B1
Hypotenuse of length 6cm

Arcs 6cm from 4cm line   B1
Repeat below

Complete rhombus   B1
Complete rhombus

[8]

4.

Straight lines each side of straight   M1
sections of L

Semi circles at each end of L or   M1
quadrant at outside corner of L

Complete locus 2cm ± 2 mm from L   A1

[3]

5.

1st arc AD, capable of being used in 60° construction	M1
2nd arc from 'correct' point crossing 1st arc	M1 dep
Angle of 60° (± 2°)	A1
'B' correctly marked	B1

Need not be labelled ... only award if first M1 earned

Complete construction for perp. from 'B' to AD (i.e. all arcs)	M1
'C' correct (±2°)	A1

Need not be labelled

[6]

6.

All loci must be within lake

Arcs centre *B* radius 3 cm (±2mm) and 5cm (±2mm)	B1

Consistent use of scale 1 cm to 100m

B3 max

(-1 MR)

Construction arcs for perp. Bisector	B1

Two sets of intersecting arcs centres A and C

Perp. Bisector of *AC* (±2mm)	B1
Line 2cm (±2mm) from path	B1
Correct region shaded	B1

[5]