Paper 1

Section A

1.	C	11.	C
2.	B	12.	A
3.	D	13.	D
4.	B	14.	A
5.	B	15.	D
6.	C	16.	D
7.	A	17.	A
8.	C	18.	B
9.	C	19.	C
10.	A	20.	C

Section B

21. $3x-5y-7=0$

22. Point of contact $(-3, 4)$

23. (*a*) (i) $\frac{1}{\sqrt{5}}$ (ii) $-\frac{3}{5}$

(*b*) $-\frac{11}{5\sqrt{5}}$

24. Maximum value 1, minimum value -7

25. (*a*) $4\cos(x-315)^\circ$

(*b*) Maximum value 7 at $x=315$

Paper 2

1. (*a*) $a = 26 \cdot 6$
   (*b*) $b = 100 \cdot 3$

2. (*a*) (i) C(0, 8, 0) (ii) $\overrightarrow{AC} = \begin{pmatrix} -6 \\ 8 \\ 0 \end{pmatrix}$ and $\overrightarrow{AD} = \begin{pmatrix} -3 \\ 4 \\ 7 \end{pmatrix}$
   (*b*) $54 \cdot 5^\circ$ or $0 \cdot 951$ radians

3. (*a*) (i) Proof (ii) $(x-2)(x-5)(x+1)$
   (*b*) A : $x = -1$ C : $x = 5$
   (*c*) $\frac{81}{2}$ square units

4. $\left\{0 \cdot 848,\ 2 \cdot 294,\ 4 \cdot 712\left(\frac{3\pi}{2}\right)\right\}$

5. (*a*) $50\ mg$
   (*b*) $u_{n+1} = 0 \cdot 2u_n + 250$
   (*c*) $312 \cdot 5 < 350 \Rightarrow$ safe to administer long term

6. $6x + y - \frac{3\pi}{2} + 1 = 0$

7. $x = 2$

8. $(x-6)^2 + (y-10)^2 = 100$