Week	Unit	Objectives/ tasks	Key Assessment
1	Core 3	Chain rule and product rule	
		Domain and range; Inequalities	
2	Core 3	Product and quotient rule	Product and quotient rule
		Composite functions	
3	Core 3	Applications of differentiation	Applications of differentiation
		Inverse functions	
4	Core 3	Solving trigonometric equations	
		Differentiating and Integrating exponential	
5	Core 3	Solving harder trigonometric equations	Solving trigonometric equations
		Differentiating and Integrating natural logarithmns	
6	Core 3	Products and quotients of trig functions	
		Products and quotients of natural logs	Revision exercise 1

Week	Unit	Objectives/ tasks	Key Assessment
1	Core 3	Integration by substitution	
		Tangents and Normals	
2	Core 3 / Decision 1	Definate integrals using substitution and integration by parts	Substitution and Integration by parts
		Basic ideas of graphs; Representing graphs as matrices	
3	Core 3 / Decision 1	Standard Integrals	
		Spanning trees; Kruskals Algorithm	
4	Core 3 / Decision 1	Volumes of revolution	Volumes of revolution
		Prims Algorithm; Prims Algorithm from a table	
5	Core 3 / Decision 1	Iterative methods	
		Dijkstra's Algorithm	
6	Core 3 / Decision 1	Numerical Integration	Revision Exercise 5
		Limitations of Dijkstra's Algorithm; Exam Practise of Dijkstra's Algorithm	

Week	Unit	Objectives/ tasks	Key Assessment
1	Core 4 / Decision 1	Remainder and factor theorem	Core 3 past paper
		Route inspection and traversibiity; Route inspection algorithm	
2	Core 4 / Decision 1	Algebraic Fractions	Algebraic Fractions
		Route inspection practise; Exam Practise of route inspection algorithm	
3	Core 4 / Decision 1	Algebraic Division	
		Nearest neighbour algorithm; Nearest neighbour algorithm	
4	Core 4 / Decision 1	Partial fractions	
		Upper and Lower bounds; Upper and Lower bounds	
5	Core 4 / Decision 1	Applications of partial fractions	Partial Fractions
		Travelling salesman practise; Exam practise of travelling salesman problem	
6	Core 4 / Decision 1	Compound and double angles	Revision Exercise 7
		Matching problems; Matching: finding alternative paths	

Week	Unit	Objectives/ tasks	Key Assessment
1	Core 4 / Decision 1	Double and Triple angle formulae	
		Matching: finding alternative paths; Matching practise	
2	Core 4 / Decision 1	Applications of integration	Integration applications
		Exam practise of matching problems; Linear Programming	
3	Core 4 / Decision 1	Harmonic form and exponential growth	
		Linear Programming; Solving linear programming graphically	
4	Core 4 / Decision 1	The exponential function	Exponential functions
		Solving linear programming graphically; Solving linear programming graphically	
5	Core 4 / Decision 1	Implicit functions and parametric equations	
		Linear Programming practise; Sorting Algorithms	
6	Core 4 / Decision 1	Using partial fractions	Revision Exercise 10
		Sorting Algorithms; Sorting Algorithms practise	

Week	Unit	Objectives/ tasks	Key Assessment
1	Core 4 / Decision 1	Differential Equations	
		Exam practise on sorting algorithms; Algorithms	
2	Core 4 / Decision 1	Modelling with differential equations	Differential equations
		Algorithms; Algorithm efficiency	
3	Core 4 / Decision 1	Addition and subtraction of vectors; positon vectors	
		Algorithm efficiency; Algorithms practise	
4	Core 4 / Decision 1	Position vectors and collinearity	Vectors and collinearity
		Exam practise of algorithms; Revision	
5	Core 4 / Decision 1	Scalar products and vector equation of a line	
		Revision;	
6	Core 4 / Decision 1	Parallel and Skew lines	Mock examination
		Revision;	

Week	Unit	Objectives/ tasks	Key Assessment
1	Core 4 / Decision 1	Perpendicular distance from point to a line	Students to complete past papers on all topics
		Revision	
2	Core 4 / Decision 1	Revision	
		Revision	
3	All modules	Revision	
		Revision	