PRINCIPAL MATHEMATICS (A-LEVEL) SCOPE

ASSESSMENT OBJECTIVE	THEME/ CONSTRUCT	CONSTRUCT DESCRIPTION	TOPICS (As Seen in The Syllabus Book)
AO1: Manipulate a wide range of algebraic expressions and equations, evaluate logical proofs and apply these skills to strategically solve real-world problems	**ALGEBRA**	Applying algebraic principles to model and solve real-life problems and lead to informed decision making	**1.** Numerical Concepts **2.** Equations and inequalities **12.** Permutations and Combinations **13.** Series **25.** Complex Numbers
AO2: Perform transformations, reason logically, visualise spatial relationships in solving geometrical related challenges in real world	**GEOMETRY**	Applying geometric concepts and spatial reasoning to interpret relationships in mathematical and real-life contexts for informed problem solving	**3.** Coordinate Geometry 1 **5.** Trigonometry **17.** Vectors **24.** Coordinate Geometry 2
AO3: Apply analytical and numerical skills in mathematical modelling to solve real-life challenges involving rates of change, accumulation and optimisation for decision making.	**CALCULUS**	Analysing and modelling of real-life situations involving rates of change, accumulation and optimisation of resources	**4.** Partial fractions **10.** Differentiation 1 **11.** Integration1 **16.** Error Analysis **18.** Differentiation 2 **19.** Integration 2 **26.** Differential Equations **21.** Trapezium rule **23.** Iterative Methods **27.** Flow charts
AO4: Predict future trends by analysing and interpreting statistical data using principles of statistics and probability to make reasonable conclusions	**DATA ANALYSIS AND PROBABILITY**	Analysing data and applying probability models to make informed decisions and predictions in personal, academic and societal contexts	**6.** Descriptive statistics **7.** Correlation and scatter diagrams **9.** Probability Theory **14.** Random variables **15.** Probability distributions **22.** Sampling distribution.
AO5: Apply principles of statics and dynamics to analyse and solve	**MECHANICS**	Analysing the effect of forces on bodies in motion or at rest,	**8.** Dynamics 1 **20.** Dynamics 2

real-world problems involving state of motion of bodies, and to predict their behaviours.		interpreting motion patterns and predict object behaviour and use it to solve real-world kinematic problems	

UACE P425/1&2 PRINCIPAL MATHEMATICS UNEB FORMAT

PAPER	SECTION	CONSTRUCT	TOTAL ITEMS SET	NO. OF ITEMS TO ATTEMPT	Duration
P425/1 PRINCIPAL MATHEMATICS (Paper 1)	A	**GEOMETRY**	**1**	**1**	**2hrs & 20 mins**
	B	**ALGEBRA**	**2**	**1**	
	C	**CALCULUS**	**2**	**1**	**3 ITEMS**
P425/1 PRINCIPAL MATHEMATICS (Paper 2)	A	**DATA ANALYSIS AND PROBABILITY**	**2**	**2**	**2HRS & 15 MINS**
	B	**MECHANICS**	**2**	**1**	**3 ITEMS**

NOTE: Paper 2 (originally) shall not be called Applied Mathematics anymore since all the papers and constructs are actually applied in real – life situations