

Date: 14/12/2022

Shantilal Shah Engineering College, Bhavnagar

General Department

- Syllabus of Progressive Assessment Test(PAT) Dec-2022
- Subject: Mathematics-1(3110014)
- BE Semester-1(All Branches). Odd term 2022

Sr.No.	Name of Topics
1	<p><i>Sequence and Series:</i></p> <ul style="list-style-type: none">• Convergence and divergence of sequences, The Sandwich Theorem for Sequences.• Bounded Monotonic Sequences.• Convergence and divergence of an infinite series, geometric series, telescoping series.• Integral test, p – series test, zero test.• The direct Comparison test, The Limit Comparison test, Ratio test, Raabe's Test, Root test,• Alternating series Leibnit'z test, Absolute and Conditional convergence.
2	<p><i>Partial differentiation:</i></p> <ul style="list-style-type: none">• Functions of several variables, Limits and continuity, Test for non existence of a limit.• Partial differentiation and examples, Mixed derivative theorem, differentiability, Chain rule, Implicit differentiation.• Tangent plane and normal line, total differentiation.• Total differentiation, Local extreme values, Method of Lagrange Multipliers.
3	<p><i>Multiple Integration</i></p> <ul style="list-style-type: none">• Multiple integral, Double integration on rectangle and general region.• Change of order of integration, double integration in polar coordinates.• Double integration solve by Jacobian determinant.• Triple integration.

Question Paper Scheme-Mathematics-1(3110014) Total Marks: 30

Q.1	Attempt any three.			
	(A)		06	CO1 Remembrance Level
	(B)		Marks	
	(C)			
	(D)			
Q.2	Attempt any two.			
	(A)		06	CO2 Understanding level
	(B)		Marks	
	(C)			
Q.3	Attempt any two.			
	(A)		06	CO3 Understanding level
	(B)		Marks	
	(C)			
Q.4	Attempt any one.			
	(A)		06	CO4 Application Level
	(B)		Marks	
Q.5	Attempt any one.			
	(A)		06	CO5 Application Level
	(B)		Marks	
