

# MATH 478 – Numerical Methods for Differential Equations

a.	Derivation of Adams methods, general multistep methods, BDFs	
b.	Order and convergence	
c.	Dahlq04 S3est eq04 S3ev4 S3alen4 S3cce theo4 S3rem	
5.	RungeKutta methods	3
a.	Derev4 S3at	
b.	Gen4 S3er fo4 S3rm	
6.	Stability and Stiff equations	3
a.	Liner stability analysis	
b.	Stiffnes	
c.	A-Stability	
7.	Error co4 C0ne8(0f5m1ho3l)TJ 0 Tc 0 Tw 5.19 0 Td ( )Tj 0.81 0 Td ( )Tj 3 0 Td ( )Tj 3 0 Td	
c.	Embedded RungeKutta methods	
8.	Boundary value problems	7
a.	S4 S3hooting methods	
b.	Fn4 S3ete d4 S3efferes	
c.	F an4 S3d4 S3 sp4 S3ectal metho4 S3d	

Assessment      Hework                          10-30%

Co42(mp)2(u)2(te)6(r)5( P)-2(r)5(o42(g)12(r)-5(a)6(ms)1(/P)-2(r)5(o42(je)6(c)6(t ])TJ 0 T

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