VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

BLOWN-UP SYLLABUS

COMMON SYLLABUS FOR 2002/2006/2010/2015/2017/2018 SCHEMES

ADVANCED MATHEMATICS –II

(A bridge course for Lateral Entry students of IV semester B.E.)

(Common to all branches)

Course Code	**MATDIP401/41**	Exam Marks	100
Teaching Hours/Week (L:T:P:S)	4:0:0	Exam Hours	03
Total Hours of Pedagogy	40 hours		

Topics	Topics tobe Covered with Article/Page No. from Text Book -1	Hours
Module-I (Vector Algebra)		
Scalar and vectors, Addition, subtraction and multiplication of vectors- Dot and Cross products, problems. Scalar triple product, Problems.	Discussion/exploration restricted to problems in ArticleNo.3.6 (page No 86 to 89). 3.8 to 3.9 (page No. 95 to 96) of text book No.1	**10**
Module -II (Vector Differentiation)		
Differentiation of vector functions. Velocity and acceleration of a particle moving on a space curve. Scalar and vector point functions. Gradient, Divergence, Curl-simple problems. Solenoidal and irrotational vector fields-Problems.	Discussion/exploration restricted to problems in ArticleNo. 8.1(Page No. 315, 316), 8.3(Page No. 319, 320),8.6(Page No. 326, 327), 8.7(Page No. 327, 328)of text book No.1	**10**
Module-III(Higher-Order Differential Equations)		
Linear homogeneous/nonhomogeneous differential equations of second and higher-order with constant coefficients. Solution by using the inverse differential operator method. [Particular Integrals restricted to $R(x) = e^{ax}, sinax\ /\ cosax$].	Discussion / exploration restricted to problems in Article No. 13.4 (Page No. 472 to 478)of text book No.1	**8**
Module-IV(Linear Algebra)		
Introduction, Rank of a matrix by elementary row operations, Consistency of system of linear equations, Solution by Gauss Elimination method. Eigen values and eigenvectors of a square matrix. Problems.	Discussion / exploration restricted to problems in Article No.2(Page No.35 to 40),2.10(Page No. 46 to 50), 2.13(Page No. 55 to 58), Article No.28 (Page No.929 to 931)of text book No.1	**12**
	Total Teaching Hours	**40**

TextBooks:

1. B.S.Grewal: HigherEngineeringMathematics, KhannaPublishers,New Delhi, 43rd Ed., 2015.

2.H.K. Dass: Higher Engineering Mathematics, John Wiley and Sons, 10th Ed., 2016.