

TUTORIAL PLAN (TuP)

Academic Year: 2026-27 (ODD)

K-2-B

Date: 01/08/2026

Institute Name & Code: K K Wagh Polytechnic, Nashik(0078)

Program Name and Code: Information Technology (IF)

Course Index: 101

Course Name: Basic Mathematics

Course Code & Abbr.: 311302 (BMS)

Semester: 1st

Scheme: K

Allocated Hrs. 30

Name of Faculty: Ms. D. M. Jori

Class: FYIF PARAM

● **COURSE OUTCOMES (COS)**

By learning course Basic Mathematics (BMS- 311302) First Year students will be able to achieve & demonstrate the following COs on completion of course based learning.

- CO1 Apply the concepts of algebra to solve engineering (discipline) related problems.
- CO2 Utilize trigonometry to solve branch specific engineering problems.
- CO3 Solve area specific engineering problems under given conditions of straight lines.
- CO4 Apply differential calculus to solve discipline specific problems.
- CO5 Use techniques and methods of statistics to crack discipline specific problems.

● **Teaching-Learning & Assessment Scheme:**

Course Code	Course Title & Abbr	Course Category	Learning Scheme						C red it s	P a p e r D u r a t i o n (H r s .)	Asses sment Scheme										Total Marks
			Actual Contact Hrs/ Week			S L H	N L H	Theory				Based on LL & TSL Practical				Based on SL					
			CL	TL	LL			FA TH			SA TH	Total		FA PR		SA PR		SLA			
												Max	Min	Max	Min	Max	Min	Max	Min		
311302	Basic Mathematics (BMS)	AEC	4	2	-	2	8	4	3	30	70	100	40	-	-	-	-	25	10	125	
Abbreviations: CL- Class Room Learning, TL- Tutorial Learning, LL- Laboratory Learning, SLH Self Learning Hours, NLH Notional Learning Hours, FA - For native Assessment, SA - Summative assessment, IKS – Indian Knowledge System, SLA - Self Learning Assessment Legends: @Internal Assessment, # External Assessment, *# On Line Examination, @\$ Internal Online Examination																					

● **Tutorial Learning Outcome (LLOs):**

LLO 1.1 Solve simple problems of Logarithms based on given applications.

LLO 2.1 Solve elementary problems on Algebra of matrices for branch specific engineering related applications.

LLO 3.1 Apply the concept of matrix to solve engineering problems.

LLO 4.1 Apply the concept of matrix to solve engineering problems.

LLO 5.1 Apply the concept of matrix to solve engineering problems.

LLO 6.1 Apply the concept of partial fraction to solve engineering problems.

LLO 7.1 Solve problems on Compound, Allied, multiple and sub multiple angles for related shapes.

LLO 8.1 Utilize the concept of trigonometry to solve engineering problems.

LLO 9.1 Utilize the concept of trigonometry to solve engineering problems.

LLO 10.1 Solve branch specific engineering problems under given conditions of straight lines.

LLO 11.1 Solve branch specific engineering problems under given conditions of straight lines.

LLO 12.1 Solve branch specific engineering problems under given conditions of straight lines.
 LLO 13.1 Apply the concept of derivative to solve engineering problems.
 LLO 14.1 Apply the concept of derivative to solve engineering problems.
 LLO 15.1 Apply the concept of equation of tangent and normal to solve engineering problems.
 LLO 16.1 Apply the concept of maxima, minima and radius of curvature to solve engineering problems.
 LLO 17.1 Apply the concept of equation of tangent and normal to solve engineering problems.
 LLO 18.1 Apply the concept of Maxima and Minima to solve engineering problems.
 LLO 19.1 Apply the concept of radius of curvature to solve engineering problems.
 LLO 20.1 Utilize the concept of derivative to solve engineering problems.
 LLO 21.1 Use concept of range and mean deviation to crack branch specific problems.
 LLO 22.1 Use concept of standard deviation and coefficient of variance to crack branch specific problems.
 LLO 23.1 Use concept of standard deviation to crack branch specific problems.

● Tutorial Plan

Pr. No	COs	LLO	Name of Experiments/ Assignment/ Sheet/ Job/ Project Activity	Planned Date	Performance Date	Remarks	Related Self Learning (if any)
			Revision	A- 04/ 08/ 2026 B- 06/ 08/ 2026 C- 08/ 08/ 2026	A- B- C-		
1	CO1	1.1 2.1	Solve simple problems of Logarithms & Matrices based on given applications.	A- 11/ 08/ 2026 B- 13/ 08/ 2026 C- 22/ 08/ 2026	A- B- C-		
2	CO1	3.1 4.1 5.1 6.1	Solve problems on Matrices & Partial Fraction using linear non repeated, repeated, and irreducible quadratic factors.	A- 18/ 08/ 2026 B- 20/ 08/ 2026 C- 29/ 08/ 2026	A- B- C-		
3	CO2	7.1	Solve problems on Compound, Allied, multiple and sub multiple angles for related shapes.	A- 25/ 08/ 2026 B- 27/ 08/ 2026 C- 05/ 09/ 2026	A- B- C-		
4	CO2	8.1 9.1	Practice problems on factorization and De-factorization formulae and Inverse Trigonometric Ratios.	A- 01/ 09/ 2026 B- 03/ 09/ 2026 C- 12/ 09/ 2026	A- B- C-		
5	CO3	10.1	Practice problems on equation of straight lines using different forms.	A- 08/ 09/ 2026 B- 10/ 09/ 2026 C- 19/ 09/ 2026	A- B- C-		
6	CO3	11.1 12.1	Solve problems on perpendicular distance, distance between two parallel lines, and angle between two lines.	A- 15/ 09/ 2026 B- 17/ 09/ 2026 C- 26/ 09/ 2026	A- B- C-		
7	CO4	13.1 14.1	Solve problems to find derivatives of implicit function and parametric function, logarithmic function	A- 22/ 09/ 2026 B- 24/ 09/ 2026 C- 03/ 10/ 2026	A- B- C-		
8	CO4	15.1 16.1 17.1 18.1	Solve problems based on finding equation of tangent and normal and radius of curvature for engineering applications	A- 29/ 09/ 2026 B- 08/ 10/ 2026 C- 10/ 10/ 2026	A- B- C-		
9	CO5	21.1	Solve problems on finding range, coefficient of range and mean deviation for given applications.	A- 06/ 10/ 2026 B- 15/ 10/ 2026 C- 17/ 10/ 2026	A- B- C-		
10	CO5	22.1 23.1	Solve problems on standard deviation, coefficient of variation and comparison of two sets.	A- 13/ 10/ 2026 B- 22/ 10/ 2026 C- 24/ 10/ 2026	A- B- C-		

Tutorial wise LLO- CO Mapping:

Tutorial No.	LLO	CO101.1	CO101.2	CO101.3	CO101.4	CO101.5
Tutorial No. 1	1.1, 2.1	✓				
Tutorial No. 2	3.1, 4.1, 5.1, 6.1	✓				
Tutorial No. 3	7.1		✓			
Tutorial No. 4	8.1, 9.1		✓			
Tutorial No. 5	10.1			✓		
Tutorial No. 6	11.1, 12.1			✓		
Tutorial No. 7	13.1, 14.1				✓	
Tutorial No. 8	15.1, 16.1, 17.1, 18.1, 19.1, 20.1				✓	
Tutorial No. 9	21.1					✓
Tutorial No. 10	22.1, 23.1					✓

Ms. D M Jori
(Name & Signature of Staff)

M. A D Wate
(Name & Signature of HOD)