"PVCNSSK" GOVT. POLYTECHNIC BILASPUR at KALOL

PTSC-7.1

PLANNED THÉORY SYLLABUS COVERAGE

GPB	Department: Applied Sciences &Humanities	Subject : Mathematics -I
	Sem. & Branch: First & ME/EE ✓	Duration : 3 Years
SYLLABUS COVERAGE	Total Period : 70 Hours	Theory :70 Hrs Practical : Nil

Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
		Orientation Programme for fresher w.e.f 11-08-2023 to 19-08-2023				
1	(1-5)Hours 3rd Week, of August. 2023 (6-10)Hrs 4th Week of August 2023 (11-15)Hrs 5thWeek of August. 2023 (16-20)Hrs	UNIT – I (20 Hours) TRIGONOMETRY :-	• Angles and its Measurement. • Related problems • Trigonometric Ratio of some Allied angles. • Related problems • Addition and Subtraction formulae. • Related problems • Transformation of a product into a sum or a difference and vice-versa. • Related problems • Trigonometric ratios of Multiple and Sub – Multiple angles. • Related problems • Graphs of Trigonometric functions Sin x, Cos x and Tan x.. • Related problems	Applied Mathematics – I By Eagle Prakashan	Elementry Engineering Mathematics By BS Grewal Engineering Mathematics By Reena Garg	

Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
2.	1st week of Sept. 2023 **(21-25)Hrs** 2nd week of Sept. 2023 **(26-30)Hrs** 3rd week of Sept. 2023 **(31-35)Hrs** 4th week of Sept. 2023 **(36-40)Hrs**	**UNIT –II** **(20 HOURS)** **DIFFERENTIAL CALCULUS**	• Function and limits , Definition, concept of Limits. • Four standard limits : $\lim_{x\to a}\frac{x^n-a^n}{x-a}$ $\lim_{x\to 0}\frac{a^x-1}{x}$ $\lim_{x\to 0}\frac{\sin x}{x}$ $\lim_{x\to 0}(1+x)^{\frac{1}{x}}$ • Related problems • Differentiation by Definition (x^n , e^x , a^x $\sin x$ $\log$ x cos x & tan x) • Related problems • Differentiation of sum , product and quotient of function. • Related problems • Differentiation of function of function. • Related problems • Differentiation of trigonometric and inverse trigonometric functions, • Related problems • Differentiation of logarithmic and Exponential functions . Related problems	**Applied Mathematics – I** **By Eagle Prakashan**	**Elementry Engineering Mathematics** **By BS Grewal** **Engineering Mathematics** **By Reena Garg**	

1st week of Oct.. 2023 **(41-45)Hrs** **2nd** week of Oct. 2023 **(46-50)Hrs** 3rd week of Oct 2023 **(51-55)Hrs** 4th week of Oct. 2023 **(56-60)Hrs** 1st week of Nov. 2023 **(61-65)Hrs** 2nd week of Nov. 2023 **(66-70)Hrs**	**UNIT –III** **(30 HOURS)** **ALGEBRA**	**Complex Number**: • Definition , real and imaginary parts of complex Numbers Power of iota. • Related problems . • Conjugate complex Number and properties of conjugate complex numbers • Fundamental operations (Addition, Subtraction Multiplication &Division) of Complex Numbers • Related problems • Polar & Cartesian form of Complex Number. • Related problems . • Modulus & Amplitude of Complex Number. • Related problems • De-movier's theorem, its application. • Related problem **Partial fractions** • linear factors, • repeated linear factors • RelatedProblems **Permutations & Combinations**. • Factorial Notation, • Related Problems • Definition of permutation and Combination and its noataion • Value of P(n,r) & C(n,r).	**Applied Mathematics – I** **By Eagle Prakashan**	**Elementry Engineering Mathematics** **By BS Grewal** **Engineering Mathematics** **By Reena Garg**	

3	2nd week of Nov 2023 3rd week of Nov 2023 **Revision**		• Related Problems • **Binomial theorem** for positive index (expansion and general form which includes). • Term of the expansion & its problems . • Term from the end.& its related problems • Middle terms, and its related problems • Coefficient of the term, and its problems • Constant term, and its related problems • Binomial theorem for any index and applications • Related Problems			

Assignments: 8 Marks (4 Marks copy + 4 Marks Viva Voice)

Assignment serial	Assignment given as per Contents of syllabus covered	Proposed date	Actual date	Remarks
A-I	Trigonometry	14/ 08/2023		
A-II	Differential Calculus	15/09/2023		
A-III	Algebra	10/10/2023		

Class Test I & II, : 30 Marks (each) and House Test : 60 Marks

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	2nd week of September,		
CT-II	Next 30% of the syllabus	2nd week of October		
House Test	80% of the syllabus	1st week of November		

APPROVED	SIGN HOD/OIC
DATE ----------	

7.8.23.