LESSON PLAN		
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA		
Name of the Faculty: **Satyananda Gadtia & Bhubaneswari Mishra**		Academic Year: **2021-22**
		Dept.: **Math & Sc.**
Course No.: **TH-1**		Course Name: **MATHEMATICS-III**
Program: **Diploma**		Branch: **Electrical, ETC**
Year/Sem: **3rd sem**(2nd Year)	Session: **Winter**	**Section:** E1 ,E2 AND ETC

WEEK	Chapter	PERIOD	Topic to be Covered
1	Chapter-1	1	**COMPLEX NUMBER-:** INTRODUCTION OF IMAGINARY NUMBER i AND COMPLEX NUMBERS.CONJUGATE, MODULUS OF A COMPLEX 2nd NUMBER
		2	GEOMETRICAL REPRESENTATION OF COMPLEX NUMBER DETERMINATION OF AMPLITUDE OF COMPLEX NUMBER.
		3	PROPERTIES OF COMPLEX NUMBER AND PROBLEM ON IT CONVERSION OF COMPLEX NUMBER TO ITS POLAR FORM. DETERMINATION OF RECIPROCAL OF A COMPLEX NUMBER.
		4	SQUARE ROOT OF A COMPLEX NUMBER.
2	Chapter-1	5	SQUARE ROOT OF A COMPLEX NUMBER.CUBE ROOTS OF UNITY AND PROBLEM ON IT.
		6	STATE DEMOVIRE'S THEOREM AND PROBLEMS ON IT.
		7	PROBLEMS ON DEMOVIRE'S THEOREM.
		8	**MATRICES**--MATRICES AND TYPES OF MATRICES. SUBMATRIX AND RANK OF A MATRIX.
3	Chapter-1	9	DETERMINATION OF RANK OF MATRIX USING DEFINITION.ELEMENTARY ROW/COLUMN OPERATIONS.ROW REDUCED ECHELON FORM.
		10	DETERMINATION OF RANK OFA MATRIx BY REDUCING IT TO ECHELON FORM.
		11	STATE ROUCHE'S THEOREM FOR CONSISTENCY OF A SYSTEM. USING CONSISTENCY AND SOLVE SYSTEM OF LINEAR EQUATION.
		12	SOLVING PROBLEM OF LINEAR SYSTEM OF EQUATION IN 3VARIABLES.
4	Chapter-1	13	SOLVING LINEAR SYSTEM OF EQUATION.
		14	**DIFFERENTIAL EQUATION**-DEFINATION OF HOMOGENOUS AND NON HOMOGENOUS DIFF COEFFICIENT WITH EQUATION WITH CONSTANT EXAMPLES.
		15	DETERMINATION OF C.F. OF DIFF EQUATION. DETERMINATION OF P.I. DIFFERENT FUNCTION.

	Chapter-02	16	DETEMINATION OF PI FOR DIFFERENT FUNCTIONS
5	chapter-02	17	SOLUTION OF DIFFERENTIAL EQUATION.
		18	SOLVING PROBLEMS OF DIFFERENTIAL EQUATION
		19	DEFINE PARTIAL DIFFERENTIAL EQUATION OF PDE .FORMATION BY ELIMINATING ARBITRARY CONSTANTS AND FUNCTIONS.
		20	SOLVING PDE IN THE FORM Pp+Qq=R
6	chapter-02	21	SOLVING PDE BY LAGRANGE'S MULTIPLIER METHOD
		22	SOLUTION OF PDE.
		23	REVISION OF COMPLEX NUMBER, MATRIX, ODE AND PDE. DOUBT CLEARING
		24	**LAPLACE TRANSFORMATION**-DEFINE GAMMA FUNCTION. EVALUTION OF GAMMA OF FUNCTION GAMMA AT 1/2 AND NATURAL NUMBERS. CALCUTION FUNCTION AT DIFFERENT POINTS USING RECURRENCE RELATION
7	chapter-02	25	LAPLACE TRANSFORMATION. EXISTENCY OF LT. FORMULAS FOR LT OF SOME STANDARD FUNCTIONS
		26	1ST SHIFTING THEOREM AND PROBLEM ON IT. FORMULAS ON MULTIPLICATION BY t" and division by t.FORMULAS ON DERIVATIVE AND INTEGRATION OF 2nd FUNCTION.
		27	FINDING LT OF FUNCTIONS USING FORMULAS
		28	FINDING LT OF FUNCTIONS USING FORMULAS..
8	chapter-02	29	DEFINE INVERSE LT OF STANDARD FUNCTIONS AND FINDING nd INVERSE LT OF SOME FUNCTIONS.
		30	INTRODUCTION TO PARTIAL FRACTION METHOD FOR FINDING INVERSE LT.
		31	FINDING INVERSE LT BY PF METHOD.
		32	STATE REVERSE OF 1" SHIFTING AND OTHER ON FORMULAs LT. SOLVING PROBLEM ON IT.
9	chapter-02	33	SOLVING PROBLEM ON INVERSE LT.
		34	SOLVING PROBLE M ON INVERSE LT USING FORMULAS..
		35	PRACTICING PROBLEMS ON LT AND DOUBT CLEARING.
		36	CLASS TEST ON MATRICES, COMPLEX NUMBER, DIFF FQUATION AND LT.
10	chapter-02	37	**FOURIER SERIES**-PERIODIC FUNCTION. EXPLANATION OF GENERILISED BY PARTS RULE AND SOM E TRIGNOMETRIC FORMULAS DEFINE FOURIER SERIES AND EULER'S FORMULA FOR 4th 10th FINDING FOURIER COEFFICIENTS.
		38	DETERMINE FOURIER SERIES OF FUNCTIONS. DETERMINATION OF FOURIER SERIES OF ODD AND EVEN FUNCTIONS.
		39	DISCUSSION OF PROBLEMS OF FOURIER SERIES
		40	DISCUSSION OF PROBLEMS OF FOURIER SERIES. STATE DIRCHLET's CONDITION FOR FINDING CONVERGENCY OF A FOURIER SERIES.FIND FOURIER SERIES OF FUNCTIONS HAVING sOME POINTS OF DISCONTINUITY
11	Chapter-03	41	DISCUSSION OF PROBLEMS OF FOURIER SERIES OF FUNCTIONS HAVING DISCONTINUITIES.
		42	DISCUSSION OF PROBLEMS OF FOURIER SERIES OF FUNCTIONS HAVING DISCONTINUITIES.

		43	REVISION OF FOURIER SERIES CHAPTER WITH PRACTING MORE PROBLEMS.
		44	**NUMERICAL ANALYSIS**-DISCUSSION OF LIMITATION OF AN ANALYTICAL METHOD OF SOLUTION OF ALGEBARIC EQUATION AND INTRODCTION OF NUMERICAL METHODS. EXPLANATION OF BISECTION METHOD..
12	Chapter-03	45	PROBLEMS ON BISECTION METHOD
		46	EXAPLANATION OF NEWTON RAPHSON METHOD AND DISCUSSION OF PROBLEM.
		47	DISCUSSION OF PROBLEMS ON NEWTON RAPHSON METHOD
		48	EXPLANATION OF FINITE DIFFERENCES AND FORM TABLE OF FORWARD.
13	Chapter-04	49	BACKWARD DIFFERENCE DEFINE SHIFT OPERATOR AND STATE RELATIONSHIPS BETWEEN DIFFERENT OPERATOR.
		50	DEFINE INTERPOLATION AND FIND MISSING VALUES FORM TABLE.
		51	STATE NEWTON'S FORWARD AND BACKWARD INTERPOATION FORMULA FOR EQUISPACED INTERVALS AND SOLVE PROBLEM ON THEM.
		52	SOLVE PROBLEMS ON FORWARD AND BACKWARD INTERPOLATION.
14	Chapter-05	53	STATE LAGRANGE'S INTERPOLATION FORMULA FOR UN EQUAL INTERVALS AND PRACTICE PROBLEM ON IT.
		54	PRACTICING PROBLEMS ON INTERPOLATION AND DOUBT CLEARING.
		55	EXPLAIN NUMERICAL INTEGRATION.
		56	STATE NEWTON COTE'S FORMULA. STATE TRAPEZOIDAL RULE AND COMPOSITE TRAPEZOIDAL RULE
15	Chapter-05	57	FIND INTERGRATIONS USING COMPOSITE TRAPEZOIDAL RULE RULE.
		58	STATE SIMPSON'S 1/3 RULE AND COMPOSITE 1/3 AND SOLVE PROBLEM ON IT.
		59	SOLVE PROBLEMS OF NUMERICAL INTERGRATION AND DOUBT CLEARING
		60	DOUBT CLEARING CLASS AND PREVIOUS YEAR QUESTIONS SOLVING.

Bhubaneswari Mishra.
15.09.21.

Satyananda Gadtia
15/9/21

Signature of faculty member

15.9.21

Signature of Sr. Lecture

Electrical Dept