BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

MATHEMATICS AND SCIENCE DEPARTMENT ACADEMIC PLAN

SEMESTER/BRANCH-1ST SEM (All branches)

SUBJECT:- ENGINEERING MATH-I (2020-21 WINTER)

FACULTY NAME:- Nirupama Mohanty, Dr. Bijayini Nayak, Gautam Panda

Semester From Dt.09.11.2020 to Dt. 31.03.2021

No of week:15

Week No.	Dates	No.of Periods available	Topics to be Covered	Date of teaching	Shortfall if any	Reasons	Date of make up of shortfall	Initial of Faculty
1	9.11.20 10.11.20 11.11.20 12.11.20 13.11.20		Unit-1 Matrices & Determinants a) Types of matrices b) Algebra of matrices c) Determinant	9.11.20 10.11.20 11.11.20 12.11.20 13.11.20				[illegible] [illegible] [illegible] GP GP
2	16.11.20 17.11.20 18.11.20 19.11.20 20.11.20 21.11.20		Unit-1 Matrices & Determinants a) properties of determinants b) Inverse of matrix (second and third order)	16.11.20 17.11.20 18.11.20 19.11.20 20.11.20 21.11.20				[illegible] [illegible] [illegible] GP GP GP
3	23.11.20 24.11.20 25.11.20 26.11.20 27.11.20 28.11.20		Unit-1 Matrices & Determinants a) Cramer's Rule (only two variable) Solution of simultaneous equations by matrix inverse method (only two variable)	23.11.20 24.11.20 25.11.20 26.11.20 27.11.20 28.11.20				[illegible] [illegible] [illegible] GP GP GP
4	1.12.20 2.12.20 3.12.20 4.12.20 5.12.20		UNIT-2 TRIGONOMETRY a) Trigonometrical ratios b) Compound angles, multiple and sub-multiple angles (only formulae) c) Define inverse circular functions and its properties (no derivation	1.12.20 2.12.20 3.12.20 4.12.20 5.12.20				[illegible] [illegible] [illegible] GP GP GP

5	7.12.20 8.12.20 9.12.20 10.12.20 11.12.20 12.12.20		UNIT-2 TRIGONOMETRY b) Compound angles, multiple and sub-multiple angles (only formula	7.12.20 8.12.20 9.12.20 10.12.20 11.12.20 12.12.20				GP GP GP
6	14.12.20 15.12.20 16.12.20 17.12.20 18.12.20 19.12.20		UNIT-2 TRIGONOMETRY c) Define inverse circular functions and its properties (no derivation	14.12.20 15.12.20 16.12.20 17.12.20 18.12.20 19.12.20				GP GP
7	21.12.20 22.12.20 23.12.20 26.12.20		UNIT-3 Co-Ordinate Geometry in two-dimensions (straight line): a) Introduction of geometry in two dimension b) Define slope of a line and angle between two lines, conditions of perpendicularity and parallelism of two lines	21.12.20 22.12.20 23.12.20 26.12.20				GP
8	28.12.20 29.12.20 30.12.20 31.12.20		UNIT-3 Co-Ordinate Geometry in two-dimensions (straight line): c) Different forms of straight lines (only formulae a. slope intercept form b. One point form c. Two point forms d. Intercept form e. Perpendicular form d) Derive equation of straight line a. Passing through a point and parallel to a line b. passing through a point and perpendicular to a line	28.12.20 29.12.20 30.12.20 31.12.20				GP

9	1.1.21 2.1.21		UNIT-3 **Co-Ordinate Geometry in two-dimensions (straight line):** e) Equation of the line passing through the intersection of two lines f) Determine the perpendicular distance from a point to a line	1.1.21 2.1.21				GP GP
10	4.1.21 5.1.21 6.1.21 7.1.21 8.1.21 9.1.21		Unit-4 **Circle:** Equation of circle. (i) centre and radius form (ii) general equation of a cirlce (iii) end points of diameter form	4.1.21 5.1.21 6.1.21 7.1.21 8.1.21 9.1.21				[illegible] [illegible] [illegible] GP GP GP
11	11.1.21 12.1.21 13.1.21 15.1.21 16.1.21		Unit-5 **5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** (i) Distance formulae, section formulae, direction ratio, direction cosine **(ii)** Angle between two lines (condition of parallelism and perpendicularity	11.1.21 12.1.21 13.1.21 15.1.21 16.1.21				[illegible] [illegible] [illegible] GP GP
12	18.1.21 19.1.21 20.1.21 21.1.21 22.1.21		Unit-5 **5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** a)Equation of a plane General form Angle between two planes	18.1.21 19.1.21 20.1.21 21.1.21 22.1.21				[illegible] [illegible] [illegible] GP GP

13	25.1.21 27.1.21 28.1.21 29.1.21 30.1.21		Unit-5 5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS) b) perpendicular distance of a point from a plane equation of a plane passing through a point parallel to a plane perpendicular to a plane					
14	1.2.21 2.2.21 3.2.21 4.2.21 5.2.21		Unit-6 SPHERE Equation of a sphere i) center radius form ii) general form iii) two end points of a diameter form (only formulae and problems)					
15	6.2.21 8.2.21 9.2.21 10.2.21 11.2.21 12.2.21 17.2.21 31.3.21		Problem practice Revision					

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF MATHEMATICS AND SCIENCE

ACADEMIC SESSION-2020-21

Lesson Plan

Nirupama Mohanty, Sr. Lect. (Math. & Sc)
Dr. Bijayini Nayak, Lect (Math.)

SUBJECT:-ENGINEERING CHEMISTRY

SEMESTER:- 2nd Sem.

BRANCH:- Civil

SEC:- 'B'

FACULTY NAME:- Nirupama Mohanty

Semester From: - Date.28.04.2021 to 19/8/2021

No of week:- 15 wks.

No of classes available per week: 2

Total period available: 36 periods

Class duration: 55 minutes

Teaching Method: Online Meeting App, Procedure.PDF, Demonstration(video recording, live class)

Learning Method: Viva discussion

Lesson plan

Week No.	Dates	No. of Periods available	Name of the experiment	Date of teaching	Shortfall if any	Reasons	Date of make up of shortfall	Initial of Faculty
1	30-4-21	2	➢ General instruction for the laboratory and apparatus.D-1	30-4-21	Nill	–	–	NM

2	7-5-21	2	➢ General instruction for the laboratory and apparatus.D-2	7-5-21	Nill	—	—	
2nd	7-5-21	2	➢ Procedure for preparation and study physical and chemical property of CO_2	7-5-21	Nill	—	—	
3rd	21.5.21	2	➢ Demonstration (video recording)	21.5.21	Nill	—	—	
4th	28.5.21	2	➢ Discussion of viva for the experiment	28.5.21	Nill	—	—	
5	04.06.21	2	➢ Procedure for crystallization of copper sulphate from copper carbonate.	04.06.21	Nill	—	—	
6	11.06.21	2	➢ Demonstration (video-recording)	11.06.21	Nill	—	—	

7	18.06.21	2	➢ Discussion of viva for the experiment	18.06.21	Nill	—	—	
7	18.06.21	2	➢ Discussion of procedure for preparation and study of physical and chemical properties of NH_3 gas	18.06.21	Nill	—	—	
8	25.06.21	2	➢ Demonstration (live class)	25.06.21	Nill	—	—	
9	02.07.21	2	➢ Discussion of viva for the experiment	02.07.21	Nill	—	—	
10	09.07.21	2	➢ Discussion of Procedure for acid radicals. known acid radicals such as carbonate, sulphide, chloride, nitrate, sulphate	09.07.21	Nill	—	—	
11	16.07.21	2	➢ Demonstration (CO_3^{2-} , S^{2-}, SO_4^{2-}) (Live class)	16.07.21	Nill	—	—	

12	23.07.21	2	➢ Demonstration (Cl^-, NO_3^-) (live class)	23.07.21	Nill	—	—	
13	30.07.21	2	➢ Discussion of procedure for basic radicals such as Ammonium, Copper, Zinc, Magnesium, sodium, potassium ➢ Discussion of viva for radicals	30.07.21	Nill	—	—	
14	06.08.21	2	➢ Procedure for Simple acid-base titrations ➢ Demonstration ➢ Discussion of viva for titrations	06.08.21	Nill	—	—	
15	06.08.21	2	➢ Discussion of Procedure for test for unknown salt (Composed of one Basic radical and one acid radical)	06.08.21	Nill	—	—	
15	13.08.21	2	➢ Sessional viva	13.08.21	Nill	—	—	
			➢ Sessional viva					

Recommended Books : Elemental Experimental chemistry by Dr. Y R Sharma, A K Das, Kalyani Publisher

19.08.2021
Sr. Lect. (Mahato)