LESSON PLAN

DEPARTMENT: MATHEMATICS AND SCIENCE

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ACADEMIC SESSION:-2021-22

SEMESTER: - 1ST SEM. WINTER-2021

SUBJECT: - ENGINEERING MATHEMATICS-I

Discipline: (All Branch) ELECTRICAL	Semester: 1st Semester	Name of the Teaching Faculty: Dr. Bijayini Nayak
Subject: Engineering Mathematics-I	**No. of Days/ per week class allotted (Mon, Tue, Wed, Thu, Fri, Sat)**	**Semester From: -** Date: 25 / 10 / 2021 to 31/ 01/2022 **No of Weeks: - 15**
Week	**Class days & Dates**	**Theory Topics**
1st	25.10.21 26.10.21 27.10.21 28.10.21 29.10.21 30.10.21	**1) MATRICES AND DETERMINANTS** a) Types of matrices b) Algebra of matrices c) Determinant d) Properties of determinant Problem of above
2nd	1.11.21 2.11.21 3.11.21 5.11.21 6.11.21	**1) MATRICES AND DETERMINANTS** e) Inverse of a matrix (second and third order) Problem on second order matrix only
3rd	8.11.21 9.11.21 10.11.21 11.11.21 12.11.21 13.11.21	**1) MATRICES AND DETERMINANTS** f) Cramer's Rule (Question should be on two variables) g) Solution of simultaneous equations by matrix inverse method (Question should be on two variables) Problem of above **CLASS TEST-1**
4th	15.11.21 16.11.21 17.11.21 18.11.21 20.11.21	**2) TRIGONOMETRY** a) Trigonometric ratios b) Compound angles, multiple and sub-multiple angles (only formulae) Problem of above
5th	22.11.21	**2) TRIGONOMETRY**

	23.11.21 24.11.21 25.11.21 26.11.21 27.11.21	c) Define inverse circular functions and its properties (no derivation) Problem of above **CASSS TEST -2**
6th	 29.11.21 30.11.21 1.12.21 2.12.21 3.12.21 4.12.21	**2) TRIGONOMETRY** c) Define inverse circular functions and its properties (no derivation) Problem of above
7th	 6.12.21 7.12.21 8.12.21 9.12.21 10.12.21 11.12.21	**3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS** (Straight line) a) Introduction of geometry in two dimension b) Distance formulae, division formulae, area of a triangle (only formulae no derivation) c) Define slope of a line, angle between two lines (only F), condition of perpendicularity and parallelism. d) Different forms of straight lines (only formulae) i) One point form (ii) two point form (iii) slope form (iv) intercept form (v) Perpendicular form Problem of above
8th	 13.12.21 14.12.21 15.21.21 16.12.21 17.12.21 18.12.21	**3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS** e) Equation of a line passing through a point and (i) parallel to a line (ii) Perpendicular to a line f) Equation of a line passing through the intersection of two lines g) Distance of a point from a line Problem of above
9th	 20.12.21 21.12.21 22.12.21 23.12.21 24.12.21	**4) CIRCLE** a) Equation of a circle (i) centre radius form (ii) general equation of a circle Problem of above

10th	27.12.21 28.12.21 29.12.21 30.12.21 1.01.22	**4) CIRCLE** (iii) end point of diameter form Problem on circle **CLASS TEST-3** **5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** a) Distance formulae, section formulae, direction ratio, direction cosine, angle between two lines (condition of parallelism and perpendicularity) Problem of above
11th	3.1.22 4.1.22 5.1.22 6.1.22 7.1.21 8.1.21	**5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** b) Equation of a plane i) General form angle between two planes Problem of above
12th	10.1.22 11.1.22 12.1.22 13.1.22 14.1.22 15.1.22	**5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** perpendicular distance of a point from a plane equation of a plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane Problem of above **QUIZ TEST**
13th	17.1.22 18.1.22 19.1.21 20.1.22 21.1.22 22.1.22	**6) SPHERE** a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae and problems Problem of above
14th	24.1.22 25.1.22 26.1.22 27.1.22 28.1.22 29.1.22	**Revision** **Exam related problem practice**
15th	31.1.22	**VST FOR SEMESTER EXAM**

BOOK REFERENCE: ENG. MATHEMATICS-I, KP, MATH BOOK BY NCERT, ELEMENTS OF MATHEMATICS.ODISHA STATE BUREAU