

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

| | 23.11.21 | c) Define inverse circular functions and its |
|-----------------|----------|---|
| | 24.11.21 | managhina (na daginatian) |
| | 25.11.21 | properties (no derivation) |
| | 26.11.21 | Problem of above |
| | 27.11.21 | CASSS TEST -2 |
| 6 th | | 2) TRIGONOMETRY |
| | 29.11.21 | c) Define inverse circular functions and its properties (no |
| | 30.11.21 | derivation) |
| | 1.12.21 | |
| | 2.12.21 | Problem of above |
| | 3.12.21 | |
| | 4.12.21 | |
| 7 th | 4.12.21 | 2) CO ODDINATE CEONAETRY IN TIMO DINAENCIONIC |
| \ | | 3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS |
| | 6 12 24 | (Straight line) |
| | 6.12.21 | a) Introduction of geometry in two dimension |
| | 7.12.21 | b) Distance formulae, division formulae, area of a triangle (only |
| | 0.43.34 | formulae no derivation) |
| | 8.12.21 | c) Define slope of a line, angle between two lines (only F), |
| | | condition of perpendicularity and parallelism. |
| | 9.12.21 | 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 |
| | 10.12.21 | Problem of above |
| | 11.12.21 | |
| 8 th | | 3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS |
| | 13.12.21 | e) Equation of a line passing through a point and (i) parallel to a |
| | | line (ii) Perpendicular to a line |
| | 14.12.21 | f) Equation of a line passing through the intersection of two |
| | | lines |
| | 15.21.21 | a) Distance of a control of |
| | | g) Distance of a point from a line |
| | 16.12.21 | Problem of above |
| | | |
| | 17.12.21 | |
| | 18.12.21 | |
| 9 th | | 4) CIRCLE |
| | 20.12.21 | a) Equation of a circle |
| | 21.12.21 | 2, 2422220000000000000000000000000000000 |
| | 22.12.21 | (i) centre radius form |
| | 23.12.21 | (1) certai e radias torrir |
| | 24.12.21 | (ii) general equation of a circle |
| | 24.12.21 | Problem of above |
| | | FIUDICIII OI ADOVE |
| | | |

| 10th 27.12.21 4) CIRCLE (iii) end point of diameter form Problem on circle 28.12.21 CLASS TEST-3 S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS a) Distance formulae, section formulae, direction ratio, direction cosine, angle between two lines (condition of parallelism and perpendicularity) 1.01.22 Problem of above 1.01.22 | |
|--|--------|
| S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS a) Distance formulae, section formulae, direction ratio, direction cosine, angle between two lines (condition of parallelism and perpendicularity) 1.01.22 Problem of above 11th S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS b) Equation of a plane 4.1.22 i) General form angle between two planes 7.1.21 angle between two planes Problem of above 12th S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS perpendicular distance of a point from a plane equation plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane Problem of above 15.1.22 QUIZ TEST 13th G) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) general form iii) two end points of a diameter form (only formulae problems problems Problem of above | |
| section formulae, direction ratio, direction cosine, angle between two lines (condition of parallelism and perpendicularity) 1.01.22 Problem of above 11th 3.1.22 4.1.22 5.1.22 6.1.22 7.1.21 8.1.21 10.1.22 11.1.22 11.1.22 12.1.22 13.1.22 14.1.22 13.1.22 14.1.22 15.1.22 15.1.22 16.1.22 17.1.21 18.1.21 18.1.21 19.1.22 19.1.21 19.1.21 19.1.21 19.1.21 19.1.21 19.1.21 20.1.22 21.1.22 22.1.22 | |
| angle between two lines (condition of parallelism and perpendicularity) 1.01.22 Problem of above 11th S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS b) Equation of a plane i) General form angle between two planes 7.1.21 angle between two planes Problem of above 12th S) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS perpendicular distance of a point from a plane equation plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane Problem of above 15.1.22 QUIZ TEST 13th G) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae problems Problem of above Problem of above | |
| perpendicularity) 1.01.22 problem of above 11th Signature Geometry in three dimensions b) Equation of a plane 4.1.22 i) General form angle between two planes problem of above 12th Signature Geometry in three dimensions perpendicular distance of a point from a plane equation plane passing through a point and 12.1.22 i) parallel to a plane (ii) perpendicular to a plane problem of above problem of above 13th Given Special Spe | |
| 11th 3.1.22 4.1.22 5.1.22 6.1.22 7.1.21 8.1.21 10.1.22 11.1.22 12.1.22 13.1.22 14.1.22 14.1.22 15.1.22 16.1.22 19.1.21 10.1.22 11.1.22 12.1.22 13.1.22 14.1.22 12.1.22 13.1.22 14.1.22 15.1.22 15.1.22 15.1.22 16.1.22 17.1.22 18.1.21 18.1.22 19.1.21 19.1.21 19.1.21 19.1.21 20.1.22 21.1. | |
| 3.1.22 4.1.22 5.1.22 5.1.22 6.1.22 7.1.21 8.1.21 10.1.22 11.1.22 12.1.22 13.1.22 14.1.22 13.1.22 14.1.22 13.1.22 14.1.22 13.1.22 14.1.22 15.1.22 17.1.21 18.1.21 18.1.21 18.1.21 18.1.22 18.1.22 18.1.22 18.1.22 18.1.22 18.1.22 18.1.22 18.1.22 19.1.21 19.1.21 20.1.22 21.1 | |
| 4.1.22 5.1.22 6.1.22 7.1.21 8.1.21 25 | |
| i) General form angle between two planes Problem of above 12th 10.1.22 perpendicular distance of a point from a plane equation plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane Problem of above 15.1.22 QUIZ TEST 13th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems Problem of above | |
| 7.1.21 8.1.21 Problem of above 10.1.22 11.1.22 13.1.22 14.1.22 15.1.22 13.1.22 14.1.22 13.1.22 13.1.22 14.1.22 13.1.22 13.1.22 14.1.22 15.1.22 17.1.22 18.1.22 19.1.21 19.1.21 20.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 21.1.22 Problem of above Problem of above 15.1.21 13th 13th 25th 26th 27th | |
| 12th 10.1.22 perpendicular distance of a point from a plane equation plane passing through a point and 10.1.22 perpendicular distance of a point from a plane equation plane passing through a point and i) parallel to a plane (ii) perpendicular to a plane Problem of above QUIZ TEST 13th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) general form iii) two end points of a diameter form (only formulae aproblems 21.1.22 problem of above Problem of above | |
| 10.1.22 perpendicular distance of a point from a plane equation plane passing through a point and i) parallel to a plane i) parallel to a plane Problem of above 15.1.22 QUIZ TEST 13 th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems Problem of above | |
| 11.1.22 12.1.22 13.1.22 14.1.22 15.1.22 16) parallel to a plane Problem of above QUIZ TEST 13th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae problems Problem of above | |
| i) parallel to a plane (ii) perpendicular to a plane Problem of above QUIZ TEST 13th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae problems 20.1.22 21.1.22 22.1.22 Problem of above | n of a |
| (ii) perpendicular to a plane Problem of above QUIZ TEST 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems 21.1.22 22.1.22 Problem of above | |
| 13th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae sphere) 20.1.22 21.1.22 Problem of above | |
| 13 th 6) SPHERE a) Equation of a sphere i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems 21.1.22 22.1.22 Problem of above | |
| a) Equation of a sphere 17.1.22 i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems 21.1.22 22.1.22 Problem of above | |
| i) centre radius form ii) general form iii) two end points of a diameter form (only formulae a problems 21.1.22 22.1.22 Problem of above | |
| 18.1.22 ii) general form 19.1.21 iii) two end points of a diameter form (only formulae a problems 20.1.22 problems 21.1.22 22.1.22 Problem of above | |
| 19.1.21 iii) two end points of a diameter form (only formulae a problems 21.1.22 22.1.22 Problem of above | |
| 20.1.22 problems 21.1.22 22.1.22 Problem of above | al |
| 21.1.22 22.1.22 Problem of above | arıa |
| 22.1.22 Problem of above | |
| 14 th 24.1.22 | |
| 14 | |
| 25.1.22 Revision | |
| 26.1.22 Exam related problem practice | |
| 27.1.22 | |
| 28.1.22 | |
| 29.1.22 | |
| 15 th 31.1.22 VST FOR SEMESTER EXAM | |

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