

GOVERNMENT POLYTECHNIC JAJPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website:<https://www.gpjajpur.org>E-mail: principalgpjajpur@yahoo.co.in Contact: 9437155107

LESSON PLAN

2ND SEMESTER, MATH & SC

| DISCIPLINE | SEMESTER | NAME OF THE TEACHING FACULTY: Pragyan Priyadarsini & Sarada Prasasd | |
|---|--|---|----------|
| SUBJECT: ENGINEERING MATHEMATICS-II | NO.OF DAYS/PER WEEK | SEMESTER FROM DATE : 14/03/2022 | TO DATE: |
| WEEKS | CLASS DAY | NO.OF WEEKS: 15 | |
| WEEKS | CLASS DAY | TOPIC | |
| 1st | 1st | i) Definition of function, based on set theorem | |
| | 2nd | ii) Types of function | |
| | | iii) Constant function | |
| | | iv) Identity function | |
| | 3rd | v) Absolute value function | |
| | | vi) The Greatest integer function | |
| 4th | vii) Exponential function | | |
| | viii) Logarithmic function with examples | | |
| 5th | ix) Introduction of limit | | |
| 2nd | 1st | i) Existence of limit with examples | |
| | 2nd | ii) Methods of evaluation of limit | |
| | 3rd | iii) Trigonometric function | |
| | 4th | iv) Discontinuity test of a function | |
| | 5th | v) Definition of continuity of a function at a point | |
| 3rd | 1st | i) continuity test of a function | |
| | 2nd | ii) Discuss exercise of Limit and continuity | |
| | 3rd | iii) Introduction of derivative with definition | |
| | 4th | iv) Importance of derivatives | |
| | 5th | v) Derivative of a function at a point | |
| 4th | 1st | i) Algebra of derivative | |
| | 2nd | ii) Derivative of standard functions | |
| | 3rd | iii) Discuss exercise of standard function | |
| | 4th | iv) Derivative of composite function (Chain Rule) | |
| | | v) Discuss exercise of composite function (chain rule) | |
| 5th | vi) Class test-1 | | |
| 5th | 5th | vi) Methods of differentiation of | |
| | 1st | i) Parametric function | |
| | 2nd | ii) Discuss exercise of parametric function | |
| | 3rd | iii) Differentiation of Implicit function | |
| | 4th | iv) Differentiation of inverse Trigonometry function | |
| 5th | v) Differentiation of Logarithmic function | | |
| 6th | 1st | i) A function with respect to another function | |
| | 2nd | ii) Applications of Derivative | |
| | 3rd | iii) Successive Differentiation (up to second order) | |
| | 4th | iv) Discuss exercise of Successive Differentiation | |
| | 5th | v) Partial Differentiation | |
| | 1st | i) Discuss exercise of Partial Differentiation | |

| | | |
|------|-----|---|
| 7th | 2nd | ii) Discuss exercise of Derivatives |
| | 3rd | iii) Introduction of Integration |
| | 4th | iv) Definition of integration as inverse of differentiation |
| | 5th | v) Some standard formulae of integration |
| 8th | 1st | i) Methods of integration |
| | 2nd | ii) Integration by using standard formulae |
| | 3rd | iii) Discuss exercise of standard formulae |
| | 4th | iv) Integration by substitution |
| 9th | 5th | v) Integration by parts |
| | 1st | i) Discuss exercise of integration by parts |
| | 2nd | ii) Integration by decomposition in to sum |
| | 3rd | iii) Discuss exercise of Integration by decomposition |
| 10th | 4th | iv) Definite integral |
| | 5th | v) Properties of definite integrals |
| | 1st | i) Integration by using trigonometric identities |
| | 2nd | ii) Application of integration |
| 11th | 3rd | iii) Area enclosed by a curve and X – axis |
| | 4th | iv) Discuss exercise of Area enclosed by a curve |
| | 5th | v) Area of a circle with centre at origin |
| | 1st | i) Discuss exercise of Area of a circle with centre at origin |
| 12th | 2nd | ii) Discuss objective type questions with answer |
| | 3rd | iii) Introduction of Differential equation |
| | 4th | iv) Order and degree of a differential equation |
| | 5th | v) Solution of differential equation vi) General solution |
| 13th | 1st | i) Particular solution ii) Defination of homogenous equation |
| | 2nd | iii) Homogenous differential equation |
| | 3rd | iv) Discuss exercise of homogenous differential equation |
| | 4th | iv) Linear equation |
| 14th | 5th | v) Discuss exercise of Linear equation |
| | 1st | i) Exact equation |
| | 2nd | ii) class test-2 ii) Discuss exercise of exact equation |
| | 3rd | iii) Introduction of vector algebra |
| 15th | 4th | iv) Types of vectors |
| | 5th | v) Representation of vector |
| | 1st | i) Magnitude and direction of vectors |
| | 2nd | ii) Addition and subtraction of vectors |
| 16th | 3rd | iii) Position vector |
| | 4th | iv) Scalar product of two vectors |
| | 5th | v) Geometrical meaning of dot product |
| | 1st | i) Angle between two vectors |
| 17th | 2nd | ii) Scalar and vector projection of two vectors |
| | 3rd | iii) Vector product and geometrical meaning |
| | 4th | iv) Area of triangle and parallelogram |
| | 5th | v) cross product and dot product of two vectors |

LERNING RESOURCES

| SL.NO | AUTHOR | TITLE OF THE BOOK | PUBLISHER |
|-------|--|---------------------------------------|------------------------|
| 1 | CHITTARANJAN MALLICK & SUSMITA MALLICK | ENGINEERING MATHEMATICS PART -2 | KALYANI |
| 2 | ODISHA STATE BUREAU EXPERTS | ELEMENTS MATHEMATICS - Vol.- 1 & 2 | ODISHA STATE BUREAU |
| 3 | R.D SHARMA | MATHEMATICS PART- I & PART- II | NCERT PUBLICATION |

* Sarada Prasad Jena.

Pragyan Priyadarshini
Signature of the Faculty