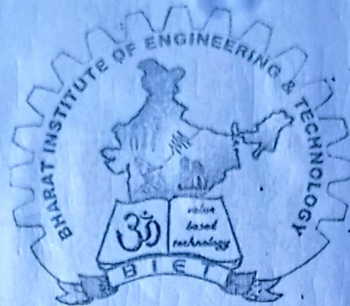


BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

**SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)**



STUDENT'S ATTENDANCE REGISTER

| Time | 9.05 to 9.55am | 10.45 to 11.35 am | 11.35 to 12.25PM | 1.05 to 1.55 PM. | 2.45 to 3.35PM |
|--------|----------------------|----------------------------|------------------------|------------------------|----------------------|
| Day | | | | | |
| MON:- | | phy 'E' | | | |
| TUES:- | phy 'E' | | | | |
| WED:- | | | | | phy 'E' |
| THUR:- | | | | phy 'E' | |
| | | | | | |

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|---|--------------------------------|
| Year/ Session : 1 st /2023 (U) | 2022-23 20.3.23 to 26.6.23 |
| Semester & Branch | Second Semester, E.T.C Branch. |
| Subject with Code | Engineering physics, TH.2a |
| Name of the Faculty Member | Chitta Ranjan Maharana. |

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|--|
| March | 4th | 20/3/23 | <p>1.1 & 1.2 <u>UNIT-1</u> physical quantities, Example, units definition, Characteristics of units Fundamental and derived units. Supplementary unit, Advantages of S.I. units.</p> |
| | | 21/03/23 | <p>1.3 Definition of dimensions, example Dimensional formula and Dimensional Equation of various physical quantities.</p> |
| | | 22/03/23 | <p>1.4 Principle of homogeneity, characteristics of dimensions with example.</p> <p>1.5 Checking the dimensional correctness of physical relation Limitation of dimensional analysis.</p> |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|---|
| March | 4th | 23/03/23 | <p>2.1 & 2.2 <u>UNIT-2</u> Scalar and vector quantity, Representation of a vector, example. Types of vector with example. Triangle law and parallelogram law of vectors.</p> |
| | 5th | 27/03/23 | <p>2.3 Simple Numericals, unit vectors, subtraction of vector Resolution of vector. Simple Numericals Solved.</p> |
| | | 28/03/23 | <p>2.4 Scalar product, vector product, Characteristics, Examples. Simple Numericals Solved.</p> |
| March | 5th | 29/03/23 | <p>3.1 & 3.2 <u>UNIT-3</u> Concept of rest and motion, S.I. unit. Displacement, speed, formula, unit and dimensions. Simple Numericals Solved.</p> |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|--------|------|-----------|--|
| April. | 2nd | 3/4/23 | <p><u>3.3</u> Acceleration, Force, types, Concept and formula, unit and dimensions. Equation of motion under gravity with Examples.</p> |
| | | 4/4/23 | <p><u>3.4</u> Circular motion, Concept, Examples Angular displacement, Angular velocity, Concept and formula unit and dimensions.</p> |
| | | 5/4/23 | <p><u>3.5</u> Angular acceleration, Concept and formula, Relation between linear velocity and angular velocity Relation between linear acceleration and angular acceleration.</p> |
| April. | 2nd | 6/4/23 | <p><u>3.6</u> Projectile motion, concept, examples vertical projections of a projectile. Simple Numericals solved.</p> |
| | | 6/4/23 | <p><u>3.7</u> Projectile fired at an angle α Equation of trajectory time of flight, Max. height, horizontal range. Condition for maximum horizontal range. Simple Numericals solved.</p> |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|--|
| April | 3rd | 10/4/23 | <p>4.1 & 4.2</p> <p><u>UNIT-4</u></p> <p>Concept of work, its formula and S.I. units, Examples, Definition and concept of friction with example.</p> |
| | | 11/4/23 | <p>4.3</p> <p>Types of friction, example static friction, kinetic friction Concept and Examples.</p> |
| | | 12/4/23 | <p>4.4</p> <p>Limiting friction, concept and Examples, Rolling friction Concept and examples, Normal reactions.</p> |
| | | 13/4/23 | <p>4.5</p> <p>Laws of limiting friction Laws of kinetic friction. Laws of rolling friction. Co-efficient of friction.</p> |
| April | 3rd | 17/4/23 | <p>4.6</p> <p>Co-efficient of rolling friction</p> |
| | | 4th | <p>Advantages and disadvantages of friction. Methods of reducing friction.</p> |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|--|
| April | 4th | 18/4/23 | 5.1 <u>UNIT-5</u> Newton's law of Gravitation, Concept and explanation, Gravitational theory. |
| | | 19/4/23 | 5.2 universal Gravitational constant. Concept, unit and dimensions, Simple Numericals Solved. |
| | 5th | 20/4/23 | 5.3 Acceleration due to gravity; Concept, Simple Numericals Solved. 5.4 & 5.5 |
| | | 24/4/23 | 5.6 & 5.7 Defination of mass, and weight Difference, Examples, Relation between g and G concept. Variation of g with depth and altitude, concept and Numericals solved. Kepler's law of planetary motion. |

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G. E. W.
19/03/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|---|
| April | 5th | 25/4/23 | 6.1 <u>UNIT-6</u> , Oscillations, waves, concept, simple harmonic motion, concept and Example. |
| | | 26/4/23 | <u>6.2</u> & <u>6.3</u> Expression for displacement velocity, acceleration and speed of a body, wave motion concept, explanation. |
| | | 27/4/23 | <u>6.4</u> Transverse wave, Longitudinal wave, concept, explanation Simple Numericals, Examples, Comparison. |
| May | 1st | 7/5/23 | <u>6.5</u> Defination and concept of amplitude, wavelength, frequency, time period, formula and relation. |
| | | 2/5/23 | <u>6.6</u> Derivation of relation between velocity, frequency, wavelength of a wave, simple Numericals solved. <u>6.7</u> ultrasonic, properties, application. |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|--|
| May | 1st. | 3/5/23 | 7.1 & 7.2 <u>UNIT-7</u> Concept, Examples, Difference of heat and temperature, units of heat, 7.3 |
| | | 4/5/23 | Specific heat, Concept, Explanation examples, unit, dimensions, simple Numericals solved. 7.4 |
| | 2nd | 8/5/23 | Change of state, Concept, examples Latent heat, Concept, unit and dimensions, Example, simple Numericals solved. 7.5 |
| | | 9/5/23 | Thermal expansions, Concept, Examples, Co-efficient of linear, superficial cubical expansion, Concept, unit. 7.6 Expansion of solid. |
| May | | 7.7 | Relation between α , β , γ ; simple Numericals, Concept, relation, difference of work and heat, Concept, unit. |
| | | 7.8 | 7.8 |
| | | 7.10 | Joules Mechanical equivalent of heat, units, examples. Simple Numericals solved. |
| | | 10/5/23 | |

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|---|
| May | 2nd. | 11/5/23 | <u>7.9</u> work and heat; concept and relation, Example, Numericals <u>7.11</u> First law of thermodynamics. Statement, Concept, Examples, Simple Numericals. |
| | | | <p style="text-align: center;"><u>UNIT-8</u></p> <u>8.1 & 8.2</u> Reflection and Refraction, definition, Concept, example. Laws of reflection and Refraction. |
| May | 3rd. | 15/5/23 | <u>8.3 & 8.4</u> Refractive index, definition, Concept, formula, Simple Numericals, critical angle, concept, Explanation. |
| | | | Total internal reflection, Concept, definition, explanation Example. <u>8.5</u> Refraction through prism. Concept, formula, ray diagrams |
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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|-----------------|-----------|--|
| May | 3 rd | 17/5/23 | <u>8.6</u> Fibre optics, definition, concept, Properties, applications. |
| May | 3 rd | 18/5/23 | <u>9.1 & 9.2</u> <u>UNIT-9</u> Electrostatics Definition, Concept, Example Coulomb's law, statement, explanation definition. |
| | 4 th | 22/5/23 | Definition of unit charge, statement example <u>9.3</u> Absolute permittivity, definition, formula, unit. Relative permittivity definition, formula, unit, Relation between them. |
| | | | <u>9.4</u> Electric potential, definition, formula, unit, explanation. Electric potential difference, definition, formula, unit and explanation. |
| | | 23/5/23 | <u>9.5</u> Electric field, definition, formula, Concept, unit and dimension Electric field intensity, definition formula, unit and dimension. |
| | | | <u>9.6</u> Capacitance, concept, formula, unit, Examples. |

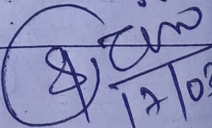
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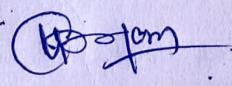
| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|---|
| May | 4th | 24/5/23 | <p><u>9.7</u> Series combination of capacitors, Concept, formula, Simple Numericals parallel combination of capacitors, concept, formula, Simple Numericals.</p> <p><u>9.8 & 9.9</u> Magnet, properties of magnet example, Explanation.</p> |
| | | 25/5/23 | <p>Coulomb's law in magnetism, definition, explanation, unit pole. definition.</p> <p><u>9.10</u> Magnetic field, Magnetic field intensity, definition, explanation, formula, S.I. unit.</p> |
| May | 5th | 29/5/23 | <p><u>9.11</u> Magnetic lines of forces, properties & definition.</p> <p><u>9.12</u> Magnetic flux, Magnetic flux densities, definition, formula, S.I. units.</p> |

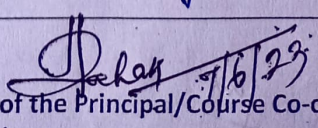
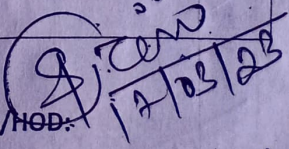
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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|------|-----------|---|
| May | 5th. | 30/5/23 | <u>10.1</u> <u>UNIT-10.</u> Electric current, definition, formula and S.I. units. |
| | | 31/5/23 | <u>10.2.</u> Ohm's law, its application, Explanation, example, simple Numericals. |
| June | 1st | 7/6/23 | <u>10.3</u> Series combination of resistors, Concept, example, simple Numericals |
| | | | parallel combination of resistors, Concept, example, simple Numericals |
| | 2nd. | 5/6/23 | <u>10.4.</u> Kirchoff's law, explanation, formula, example. |
| | | 6/6/23 | <u>10.5</u> Application of Kirchoff's law in Wheatstone bridge; example Simple Numericals. |
| June | | | <u>11.1</u> <u>UNIT-11</u> Concept, example, Electromagnetism |
| | 2nd. | 7/6/23 | <u>11.2</u> Force acting on a current carrying conductor placed in a uniform magnetic field. |

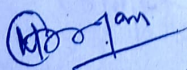
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Signature of the Principal/Course Co-ordinator/HOD:  7/6/23  7/05/23

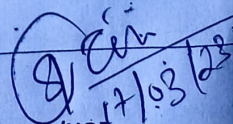
B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|---------|-------|---|--|
| June | 2nd. | 8/6/23 | <p>Concept, example. Flemmings left hand rule.</p> <p><u>11.3</u> Faradays law of electromagnet Induction. Statement, explanation.</p> |
| | 3rd. | 12/6/23 | <p><u>11.4</u> Lenz's law Concept.</p> |
| | | 13/6/23 | <p><u>11.5</u> Flemmings right hand rule, Example.</p> |
| | 4th. | 19/6/23 | <p><u>11.6</u> Comparison between Flemming left hand rule and right hand rule. example, Concept.</p> |
| | June. | | |
| 21/6/23 | | | <p><u>12.2 & 12.3</u> principle of Laser population inversion and optical pumping.</p> |
| 22/6/23 | | <p>properties and application of laser</p> <p><u>12.4</u> wireless transmission -</p> | |
| 5th. | | 26/6/23 | <p>Ground waves, sky waves and Space waves. Defination and Concept.</p> |

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