GITAM (Deemed to be University), Hyderabad

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Branch/ Semester: B. Tech/ First Sem

Subject Code: 19EPH131

Subject Name: **Engineering Physics (Important Questions)**

**TWO MARKS QUESTIONS**

**Unit-1: Electrostatics and Magnetostatics**

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| **Short-Answer Questions** | |
|  | Define Coulomb’s law and write its limitations? |
|  | What are the different types of charge distributions and give an example for each one? |
|  | Define electric field, electric potential and how they are related |
|  | Write the applications that uses electrostatic principles? |
|  | Define divergence and curl of a vector field and its significance |
|  | State Gauss’s law for electric and magnetic fields |
|  | State the law of conservation of charge |
|  | State Boit-savart’s law |
|  | State Ampere’s circuital law. |
|  | State Faraday’s law of electromagnetic induction |
|  | What is displacement current and how it is different from conduction current |
|  | What is equation of continuity? |
|  | Write Poisson’s and Laplace equations. |
|  | Write all Maxwell equations |
|  | Write any differences between E and H, D and B |
|  | Write the relations between B and H; and D and E |
| **Long-Answer Questions** | |
|  | Apply Maxwell’s first relation and derive the Coulomb’s law of electrostatics. |
|  | State Gauss’s law and apply to find the electric field of a uniformly charged sphere |
|  | Apply Gauss’s law to calculate the electric field of a line charge and charged conducting sheet |
|  | Apply the amperes law to calculate the magnetic field due to current carrying wire |
|  | Write a short note on divergence and curl of a magnetic fields |
|  | Evaluate the equation of continuity for steady state current |
|  | State and explain the Maxwell equations in differential and integral form |