# ***Marked Questions***

***Chapter 3: (Vectors)***

- Sample Problems:
  - 3.02, .03, .04, .05, .07
- Numerical Problems:
  - 1, 2, 3, 6, 8-16, 34-40

***Chapter 4: (2d-3d Motion)***

- Sample Problems:
  - 4.01, .02, .03, .04, .05
- Numerical Problems:
  - 2, 3, 6, 7, 11, 13-16, 22-25, 27, 28, 31, 33

***Chapter 5: (Force & Motion)***

- Sample Problems:
  - 5.01, .02, .03, .04, .06
- Numerical Problems:
  - 2-10, 17, 19, 23

***Chapter 15: (Oscillations)***

- Numerical Problems:
  - 1-7, 9-11, 13

***Chapter 16: (Waves)***

- Numerical Problems:
  - 3-5, 7, 9, 10

***Sample Problem***

15.01

***Chapter 21: (Coulomb's Law)***

- Numerical Problems:
  - 3-6, 13, 15, 24-28, 37, 41, 42

***Sample Problems***

21.01
21.02
21.03
21.04

***Chapter 22: (Electric Fields)***

- Numerical Problems:
  - 3, 5, 7, 11, 14, 20, 22, 42, 44

**Sample Problems**

22.01
22.02

***Chapter 23: (Gauss's Law)***

- Numerical Problems:
  - 19, 21, 22, 24, 25, 27, 28, 30, 31, 36, 41, 45-47

**Sample Problems**

23.02
23.03
23.04
23.06
23.07

***Chapter 25: (Capacitance)***

- Sample Problems:
  - 25.01, 25.02, 25.03
- Numerical Problems:
  - 1-4, 6, 8-15

***Chapter 26: (Current & Resistance)***

- Sample Problems:
  - 26.02, .04
- Numerical Problems:
  - 1, 2, 4, 5, 7, 8, 10-15, 17-19, 23, 29, 31, 32

***Chapter 28: (Magnetic Fields)***

- Sample Problems:
  - 28.01, 28.03, 28.05, 28.06
- Numerical Problems:
  - 1, 3-5, 13, 14, 21, 23-25, 39, 40-42, 45

***Chapter 29: (Magnetic Field Due To Current)***

- Sample Problems:
  - 29.03, .04
- Numerical Problems:
  - 1, 3, 35, 36, 43, 45, 49, 51-53

# ***DERIVATIONS:***

***Chapter 4: (2d-3d Motion)***

- Parabola:
  - Range
  - Time of Flight
  - Height
  - Proof an equation is that of a parabola
- Circular Motion

***Chapter 15: (Oscillations)***

- ~~Force law for SHM~~
- Simple Pendulum
- ~~Torsion Pendulum~~
- Circular Motion and SHM

***Chapter 16: (Waves)***

- General wave equation
- Wave speed equation

***Chapter 21: (Coulomb's Law)***

- Coulomb's Law
- Charge Quantization
- Charge Conservation

***Chapter 22: (Electric Fields)***

- ~~Electric field due to a point charge~~
- Electric field due to a dipole

***Chapter 23: (Gauss's Law)***

- Electric flux
- Gauss's and Coulomb's Law
- All Symmetries in Chapter#23 (Skip the one which was given in MID-2 Exam)

***Chapter 25: (Capacitance)***

- 25.2 : Calculating the capacitance (All sub topics such as parallel, cylindrical and spherical)

***Chapter 26: (Current & Resistance)***

- Current density and Drift speed
- Resistance and resistivity

***Chapter 28: (Magnetic Field)***

- Crossed Fields: The Hall Effect
- A circulating Charged Particle

***Chapter 29: (Magnetic Field Due To Current)***

- Biot and Savart law (Calculating the Magnetic field due to current)
- Force B/w two parallel currents
- Ampere's Law (Magnetic Field inside and outside of long straight wire)
- Solenoids and Toroid