JAY PRAKASH

Date _____ Page _____

10-Sep-2020

Electrodynamics: An introduction.

Ref: Sindhu - Course.

Sindhu. S
4AL18EL049
5th sem; A' sec

- Introduction to electromagnetism and its application to material Science.

- The operator ∇ :-

$$\frac{\partial T}{\partial x} = \frac{\partial T}{\partial x'}\cos\theta - \frac{\partial T}{\partial y'}\sin\theta$$

$$= \frac{\partial}{\partial x} = \frac{\partial}{\partial x'}\cos\theta - \frac{\partial}{\partial y'}\sin\theta$$

- The differential equation of heat flow
  - Heat flow on slab

$$J = K(T_2 - T_1)\frac{A}{d}$$

- Second derivatives of Vector fields

$$\nabla \cdot (\nabla T) = \nabla^2 T$$

$$\nabla \times (\nabla T) = 0$$

$$\nabla (\nabla \cdot h)$$

$$\nabla \cdot (\nabla \times h) = 0$$

$$\nabla \times (\nabla \times h)$$

$$\nabla^2 h = (\nabla^2 h_x, \nabla^2 h_y, \nabla^2 h_z)$$

2

Pitfalls :-

$\nabla\psi \times \nabla\phi \neq 0$ V/s $A\psi \times A\phi = 0$

The two operators ∇ are not equal because the first one operater on one function, ψ; the other operates on a different function, ϕ;

Date:-
Course :- Hardware Description languages for FPGA Design AAL18EC049
Date:- 10-Sep-2020 5th sem, 'A' section

- BCD DECade Counters / 4 bit binary Counters
- Syochronous 4-bit Binary Counters.
- VHDL 74LS163 Binary Counters
- VHDL Make a Memory
- VHDL Finite state Machine.

Mission 2-005

```
library ieee;
Use ieee.std_logic_1164.all;
entity FSM is
port (In1; in std_logic;
      RST : in std_logic;
      CLK : in std_logic;
      Out1 : inout std_logic;
end FSM;
```

- VHDL ALU :-

Mission 2-005

```
LIBRARY IEEE;
USE IEEE.STD_logic_1164.ALL;
Use IEEE.Numeric_STD.ALL;
Use IEEE.STD_logic_Unsigned.ALL;
Enfity ALU IS
PORT (bp code : IN Std_logic_Vector
        (2 DOWNTO 0); A, B : IN STD_
  Logic_Vector (31 Down to 0);
Y : out std_logic_Vector (31 DOWN TO 0))
  END ALU;
```