I. Fill in the blanks

1. The unit of electric flux is <u>V-m(or) Nm^2C^{-1}</u>

2. The unit of magnetic flux is <u>weber</u>

3. Magnetic flux is denoted by ϕ_B

4. Electric flux is denoted by ϕ_E

5. The force between two charges is 120N. If the distance between the charges is doubled then the force will be <u>30N</u>

6. The electric lines of force due to the charged particles are <u>always curved</u>

7. The electric field at a point is located at a distance (d) from the straight charged conductor is <u>inversely propotatinal to d</u>

8. The field line and equi-potential surfaces are <u>always 90^0</u>

9. The ability of charged bodies to exert electric force is <u>electric field</u>

10. A capacitor stores 0.24C at 10V, its capacitance <u>0.024F</u>

11. The unit of capacitance is <u>Farad</u>

12. A di-electric material must be <u>Insulator</u>

13. The dissipation factor good di-electric is <u>0.0002</u>

14. $\varepsilon = \dfrac{d}{\in_0}$ is the expression for electric field strength

15. <u>Ceramic</u> highest value of di-electric

16. Energy stored in a capacitor is $\dfrac{1}{2}CV^2$

17. The value of ε_0 is <u>8.854 X 10^{-19} F/M</u>

18. The relative permittivity of fee space is <u>1</u>

19. Electric field intensity is <u>vector</u> quantity

20. IC = <u>$3X10^9$</u> E.S.U

21. No. of electrons in 1 coulomb of charge <u>6.25 X 10^{21}</u>

22. Formula of Biot-savart law is $\dfrac{\mu_0 i}{4\pi} \times \dfrac{idl\sin\theta}{r^2}$

23. Biot-savart law in Magnetic field is analogous to <u>columb's law</u> in electric field.

24. The magnetic field lines outside the magnetic bar is <u>North to south pole</u>

25. Magnetic field is <u>vector</u> quantity

26. Magnetic field is strongest at <u>both poles</u>

27. A making electrical charge produces <u>magnetic & electric fields</u>

28. Magnetic lines are <u>com not intersect each other</u>

29. The force experienced by a unit positive charge placed at a point called <u>Intensity of electric field</u>

30. The unit of electric field is <u>Newton/coulomb</u>

31. The path of a free positive charge in an electric field is called <u>electric line of force</u>

32. The arrangement of two equal and opposite point charges at a fixed distance is called <u>electric dipole</u>

33. The product of magnitude of charge and distance between dipole called <u>Dipolement</u>

34. Dipole moment (P) is given by <u>'2ql'</u>

35. The scalar product E.ds is defined as <u>electric flux for the surface</u>

36. Gauss's law is converse of <u>coulombs</u> law

37. Gauss law equation is $\emptyset_E = \dfrac{1}{\in 0}(Q)$

38. A surface on which all points are at the same potential is called <u>equipotential surface</u>

39. The potential at point inside the sphere is V = $\dfrac{1}{4\pi\in 0} \cdot \dfrac{q}{r}$

40. The unit of energy is <u>EV (electronics volts)</u>

41. 1 ev = <u>1.602 X 10^{-19}J</u>

42. The force between two charges is 120 N. If the distance between charges is disabled, the force will be <u>30N</u>

43. The lines of force due to charged particles are always <u>curved</u>

44. The direction of electric field due to positive charge is <u>away from the charge</u>

Short Answer questions.
1. State Biot-Savart Law?
2. Define Electric field, Electric potential and EMF?
3. Determine the resistance for given sequence (Red, Green, Red, Gold)
4. What is impedance of network?
5. What is resistor?
6. What is capacitor?
7. What is inductor?
8. Define self and mutual inductance?
9. Define electric lines of force?
10. Define magnetic induction?