**St.Theresa’s Arts and Science College for Women, Tharangambadi.**

**Model question paper –** **Allied Physics II**

Time: 3 Hours Maximum: 75 Marks

**SECTION - A**

**Answer all questions** 10 X 2 = 20

1. What are insulators and conductors?
2. Define the unit farad.
3. Define Magnetic susceptibility.
4. Define ferrimagnetism.
5. What is spatial quantization?
6. State Moseley law.
7. Define the atomic mass unit.
8. Define Betatron.
9. What is logic circuit?
10. Convert 1010 into a decimal number.

**SECTION - B**  5 X 5 = 25

**Answer any FIVE questions**

1. a. State and explain Coulomb’s law in electrostatics. (Or)

b. Derive an expression for the capacity per unit length of a cylindrical capacitor.

1. a.Write down the difference between the properties of Dia, Para and Ferro Magnetic materials. (Or)

b. Relation between µm and µr.

1. a.State and Explain the Pauli’s exclusion principle. (Or)

b.What is Miller indices? Describe how you will determine the Miller indices.

1. a. Describe the principle, construction and working of a bubble chamber. Mention its uses (Or)

b.What are the merits of liquid drop model.

15. a.Convert F8E6 into decimal number.(Or)

b. what are NOR and NAND gate. Give the circuit and the truth table.

**SECTION –C** 3 X 10 = 30

**Answer any THREE questions**

16.Show that there is always loss of energy due to sharing of charges.

17Explain the B-H curve and its application .

18.Describe the laue photographic method.

19.Describe the theory of cyclotron and its limitations.

20.State and prove De-Morgan’s theorems with the help of truth tables.