Unit -6 Question Bank

Que:1 Derive the expression for calculation of Sag for equal supports **{8 Marks}**

Que2: Derive the expression for calculation of Sag for unequal supports **{8 Marks}**

Que:3 Explain the phenomena of Corona? What are the factors affecting Corona? What are the disadvantages of Corona? **{5 Marks}**

Que:4 What are the different loadings on transmission line? Explain the effect of ice and wind loading on the line {**5 Marks}**

Que:5 A transmission tower on a level ground gives a minimum clearance of 8 meters for its lowest conductor with sag of 10 m for a span of 300 m. If the same tower is to be used over a slope of 1 in 15, find the minimum ground clearance obtained for the same span, same conductor and same weather conditions**. {5 Marks}**

Que:6 A transmission line has a span of 200 metres between level supports. The conductor has a cross-sectional area of 1·29 cm2, weighs 1170 kg/km and has a breaking stress of 4218 kg/ cm2. Calculate the sag for a safety factor of 5, allowing a wind pressure of 122 kg per square metre of projected area. What is the vertical sag? **{5 Marks}**

Que:7 A transmission line has a span of 275 m between level supports. The conductor has an effective diameter of 1·96 cm and weighs 0·865 kg/m. Its ultimate strength is 8060 kg. If the conductor has ice coating of radial thickness 1·27 cm and is subjected to a wind pressure of 3·9 gm/ cm2 of projected area, calculate sag for a safety factor of 2. Weight of 1 c.c. of ice is 0·91 gm. **{5 Marks}**