**SECTION-A**

**Answer All Questions: (6 x 1 = 6M)**

1. a) What are the passive elements?**(Remember)**

b) State kirchoff’s current law.**(Remember)**

c) Define ‘Tree’ of a graph.**(Remember)**

d) Give the equations for active and reactive power.**(Understand)**

e) Define complex power?**(Remember)**

f) Define the term power factor.**(Remember)**

**SECTION-B (1x 7 = 7M)**

1. Determine the Resistance between the terminals A and B. (**Evaluate)**

**(OR)**

1. Calculate the current through 4Resistor in the circuit by nodal method. **(Apply)**

**SECTION-C (1 x 7 = 7M)**

1. A resistance of 10and a capacitance of 100 F are connected in series across 150V, 50 Hz supply. Calculate (i) Capacitive Reactance (ii) Impedance (iii) Current (iv) Phase angle (v) Powerfactor (vi) Active power (vii) Reactive power. **(Apply)**

**(OR)**

1. Derive the expression for DC response of R-L series circuit. **(Apply)**