MODEL QUESTION PAPER - I

Time: 3 hours   Marks : 100

Part A: 10 Questions are to be answered each carries 3 marks. (10 x 3 = 30)

Part B: 5 Questions will be in either or pattern, each question carries 14 marks. (5 x 14 = 70)

PART- A

1.   Write the properties of parallel circuit.

2.   State kirchoff's laws.

3.   Write the expression for delta to star transformation.

4.   State maximum power transfer theorem.

5.   Define RMS value in AC circuit.

6.   Define resonance. State the conditions for series resonanace.

7.   What is meant by phase sequence?

8.   What is the necessity of 3 phase system? any three points.

9.   What are the physical changes during discharging in lead acide bettery.

10. Compare primary and scondary cell.

PART - B

11. A) i) State and explain kirchoff's laws.

(Apr. '13, '19, Oct. '13)

ii) Three capacitors 10μF, 25μF and 50μF are connected in series. A DC supply of 500V is connected across the circuit. Find the Total capacitance.   (Oct. '12)
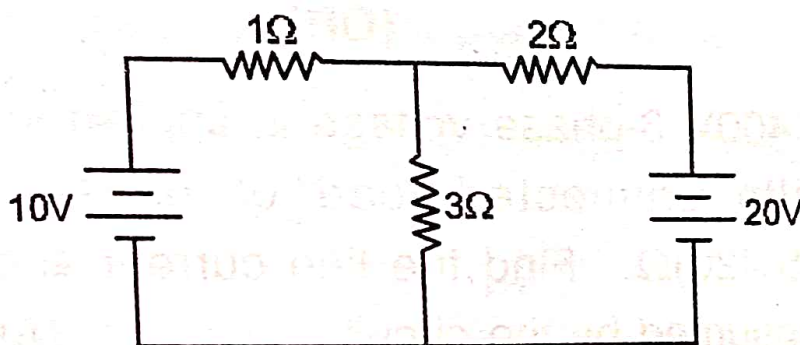
(OR)

B) A resistance of RΩ is connected in series with a parallel circuit comprising of two resistances 10Ω and 15Ω respectively. The total power dissipated in the circuit is 200W, when the applied voltage is 40V. Calculate the value of 'R'. (Apr. 2015)
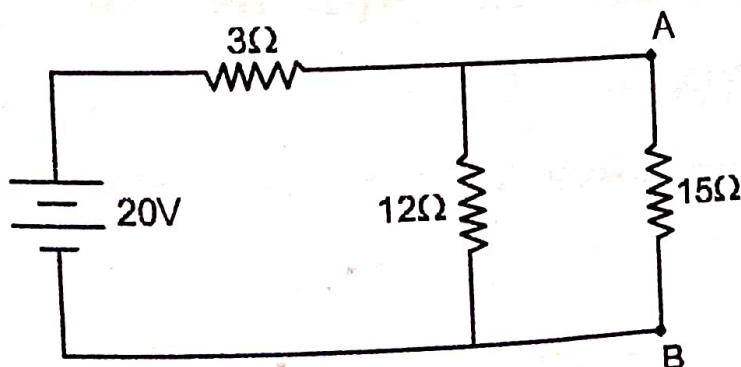
12. A) Using super position theorem, find the current through 3Ω resistor in the circuit given below.
(Oct. '12, '15, Apr. '16)

(OR)

B) For the circuit given below, find the current through 15Ω resistance by using Thevenin's theorem.
(Oct. '14)

13. A) A current of 10A flows in a circuit with a 60 angle of lag, when the applied voltage is 100V, 50Hz AC. Find the resistance, reactance and impedance of the circuit. (Apr. 2013)

(OR)

B) A series RLC circuit with a resistance of 50 Ω an inductance of 0.15 H and a capacitor of 75 f are connected across 230V, 50HZ AC supply. Draw the circuit and find the impedance, current and power consumed by the cirucit. **(Oct.2018)**

14. A) The power input to a 400V, 3φ, 50Hz motor is measured by two wattmeters, which indicate 2500W and 500W respectively. Find the power and power factor of the circuit. **(Apr. '13, '16, Oct. '13, '15)**

(OR)

B) A 400V 3-phase voltage is applied to a balanced delta connected load of phase impedance $(15+j20)\Omega$. Find the line current and the power consumed by the circuit. **(Apr. 2015)**

15. A) Explain the different methods of charging of batteries. **(Ap. '04, '14, Oct. '05)**

(OR)

B) Mention any six points about the maintenance of lead acid cell. **(Apr. '04, '16)**