

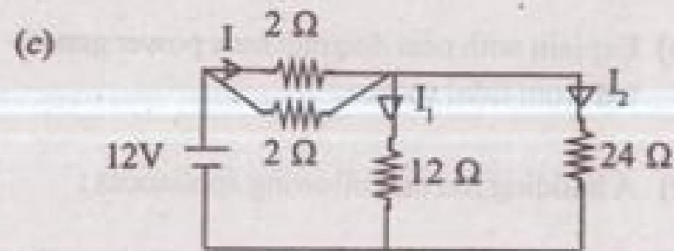
(2)

(iii) 4 tube lights each of 40W running for 12 hrs in a day.

Find the monthly bill for a month of 30 days, if the cost of first 100 unit is Rs.1.40/unit and rest units at Rs. 4.10/unit. 7

2. (a) Define reluctance. 2

(b) Derive the emf equation of a d.c. generator from first principle. 5



Calculate effective resistance, value of I , I_1 and I_2 . 7

(3)

3. (a) Draw the impedance triangle for R-C series circuit. 2

(b) An 8-pole d.c. generator has 960 armature conductors and a flux per pole of 20 mWb. Calculate the emf generated when running at 500 RPM (i) a lap connected armature winding (ii) a wave connected armature winding. 5

(c) With neat diagram explain operation of Moving Iron-type Instrument. 7

4. (a) What is the value of average power in purely capacitive and purely inductive circuit? 2

(b) A shunt generator generates 230V and delivers 220V to the load. The resistance of the shunt field and armature are 55Ω and 0.02Ω respectively. Calculate armature current and load current. 5