I Scheme

Question bank – Unit test 1

EE2I

Fundamentals of Electrical Engg. (FEE) - (22212)

Unit I

Questions worth 2 Marks

1. Write any two differences between direct current and alternating current.

2. List any two effects of electric current. Give one example of each.

3. Define resistance. Also mention the factors upon which it depends.

4. State any two features of carbon composition resistors.

5. Classify electrical materials.

6. Define electric work and electric power. Give their SI units.

Questions worth 4 Marks

7. List any four types of resistors. Give one application of each.

8. A device stores 500 J and releases in the form of current of 40 A in the duration of 15 msec. Find the terminal voltage.

9. Distinguish between Direct current and Alternating current. (Any four points)

10. An electric heater is rated as 220 V, 800 watts. Calculate resistance and current through it. Determine the bill for using it for 4 hours at a rate of Rs. 4.5 per unit.

11. Define Ideal voltage source and practical voltage source. Draw the symbol for each.

12. State any four advantages of A. C. over D. C.

13. Draw the symbol and characteristics of ideal voltage source and practical voltage source.

14. The field coil of generator has 14.1 W at 25°C and 18.2 W at 32°C. Find the temperature coefficient of resistance at 0°C and resistance at 0°C.

15. Define resistance and resistivity. State the relation between them.

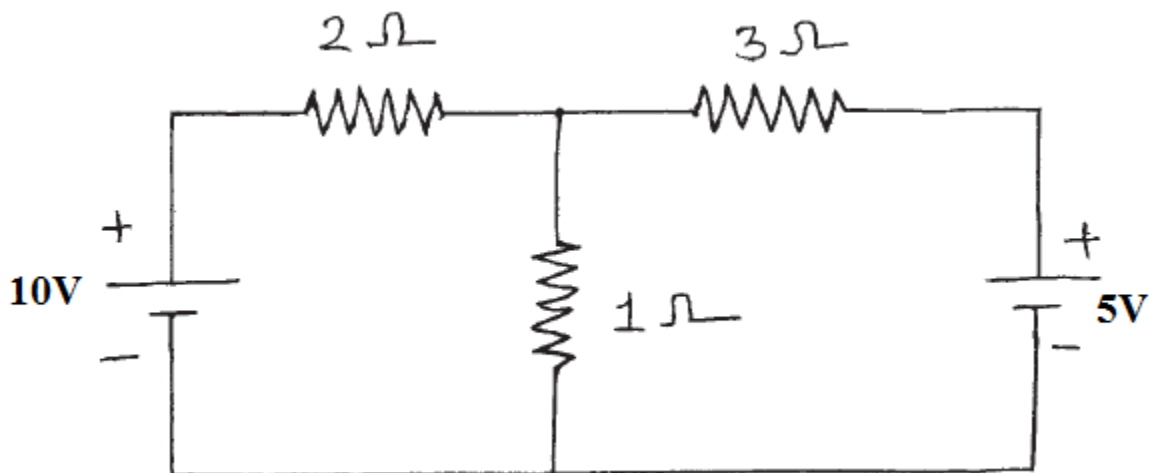16. Describe the effect of temperature on resistance.

Unit II

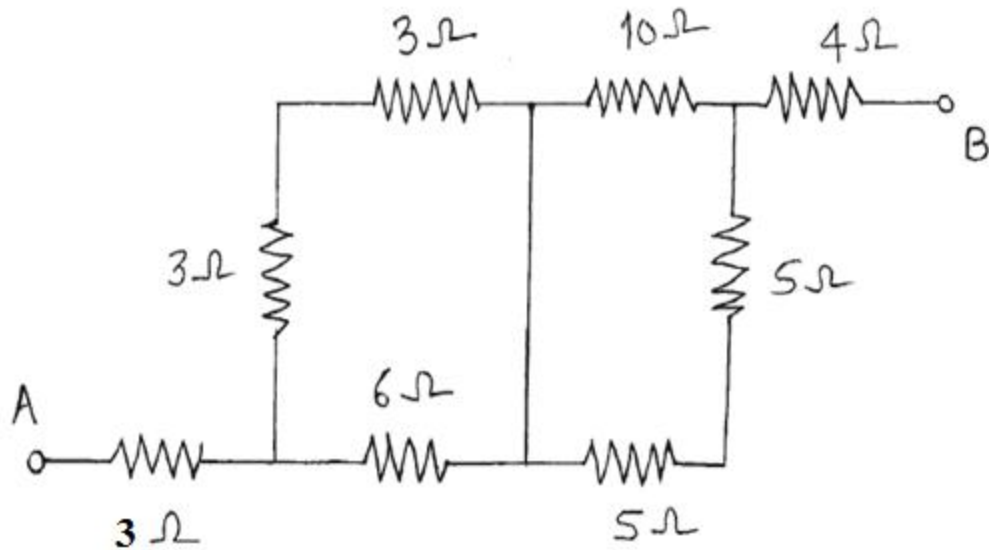**Questions worth 2 Marks**

17. Define -

    (i) Node (ii) Loop for a DC circuit

18. Define unilateral and bilateral circuit.

19. State Ohm's Law.

20. Why the emf of a cell is always greater than its terminal voltage? Explain.
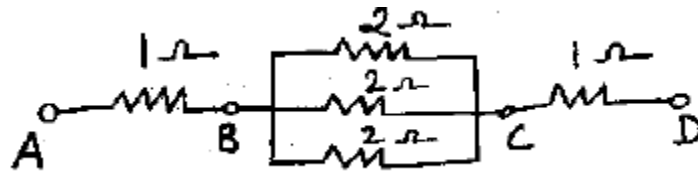
Questions worth 4 Marks

21. Find current through 1W resistance of Figure No. 1 using Kirchhoff's laws.

22. Find resistance RAB from Figure No. 2.

23. Calculate the equivalent resistance between points A and D in Fig No.1

24. State and explain Kirchhoff's current law and voltage law.

25. Compare series resistive circuit with parallel circuit on any four points.

26. Define the following :
   i) Active Network ii) Lumped Network   iii)Distributed Network   iv) Branch

Unit III

Questions worth 2 Marks

27. Define dielectric strength for a capacitor. What is its unit?

28. Define breakdown voltage and dielectric strength of a capacitor.

29. Give two types of capacitor and give one example of each.

30. Define Capacitor. What is its unit?

Questions worth 4 Marks

31. Draw a practical set-up to plot charging and discharging curves of a capacitor through a resistor. Draw the curves.

32. Three capacitors 15mf, 18 mf and 12 mf are connected in a circuit. Find equivalent capacitance when they are connected in -

    (i) series (ii) parallel

33. List any three types of capacitor. Give one application of any one type.

34. Derive the expression for energy stored in a capacitor with the help of neat diagram.

35. Calculate the value of equivalent capacitance of the combination given in Figure
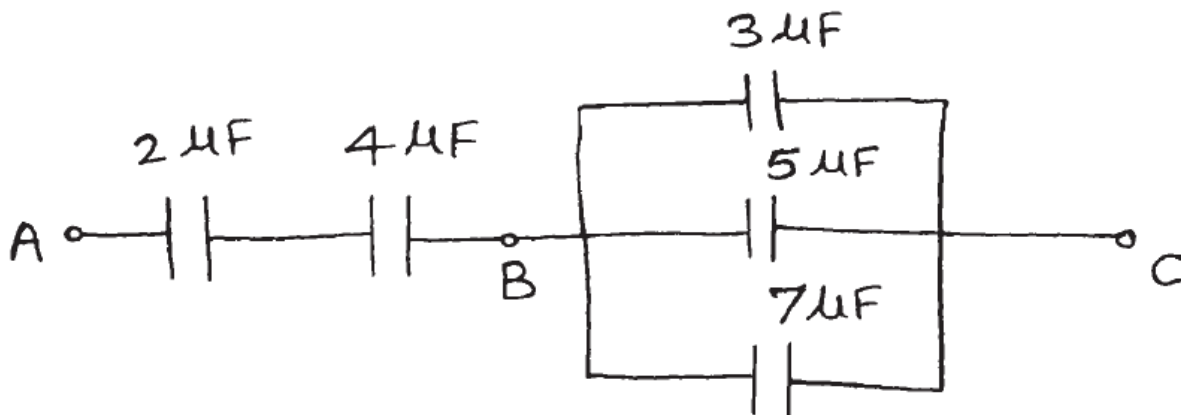
36. Explain any one constant voltage charging method.