MCQ'S

1._____components may be used for amplification, rectification, or to change energy from one form to another.
(a) active (b) passive (c) discrete
2. Actual physical size of the resistor indicates _____rating.
(a) resistance, (b) voltage, (c)power.
3.Capacitance of a capacitor is inversely proportional to_____.
(a)dielectric constant, (b) area of plates, (c) thickness of dielectric.
4.Charging time constant is the time required to charge the capacitor to_____% of the applied voltage.
(a)100, (b) 63.2, (c) 36.8.
5.In a step down transformer secondary voltage is _____the primary voltage.
(a) less than, (b) more than, (c) equal to
6._____losses can be minimized by using laminated iron core.
(a) eddy current, (b) hysteresis, (c) copper
7.The position of relay contacts, when relay is _____is called the normal position.
(a)energized, (b) not energized, (c) short circuited
8._____ is a good conductor of electricity.
(a) Plastic, (b) Gold, (c) Rubber
9._____ is an example of AC source.
(a) Alternator, (b) Battery, (c) Rectifier
10.Absence of fourth band means resistance tolerance of_____.
(a) ±5%, (b) ±10%, (c) ±20%.
11.An ideal current source is one whose internal resistance is _____.
(a) very high, (b) infinite, (c) zero
12.An ideal voltage source is one whose internal resistance is_____.
(a) very high, (b)infinite, (c) zero
13.According to KCL the total current flowing towards a point is_____the total current flowing away from that point.
14.Resistance Rth and Rn have _____value.
(a) the same, (b) zero, (b) different
15.Vth is _____voltage across output terminals.
(a) open circuit, (b) short circuit, (c) full load
16.For maximum power transfer from the source to the load, the load resistance should be_____the internal resistance.
(a) less than, (b) equal to, (c) more than
17._____is an example of DC source.
(a) Battery, (b) Signal generator, (c) Alternator

Answer the following:

1. What do you mean by active and passive components? Give examples.
2. State specifications of resistors.
3. Compare carbon composition and ire wound resistors.
4. Explain Potentiometer with diagram.
5. Define capacitance. Explain the factors affecting capacitance of a capacitor.
6. Explain charging of capacitor.
7. Write the types of capacitor.
8. What is time constant in capacitor?
9. Explain discharging of capacitor.
10. Draw the symbols of the following:
    Thermistor , LDR , Varistor , Variable resistor , Variable capacitor , Iron core inductor , Air core inductor , ferrite core inductor , SPDT switch.
11. Define seif inductance and mutual inductance.
12. State the factors affecting inductance of inductor.
13. Explain the types of inductors according to the core material used.
14. Explain with diagram principle of general purpose relay.
15. Explain the practical DC voltage source.
16. Explain the practical current source.
17. State Superposition theorem.
18. Give reasons for internal resistance of source.
19. State different types of AC sources.Explain any one.
20. State KCL and explain its sign conventions.
22. Explain the transformer losses.
23. Ste KVL and explain its sign conventions.
24. Explain the working principle of transformer.
25. State different types of transformers.
26. Write steps to apply Thevenin’s theorem.