

Recruitment for the post of Technician 'A' (Electronics)
Full Marks 100 (Written Test: 30 Marks + Trade Test: 70 Marks)
Time Allotted: (Written Test: 1 Hour + Trade Test: 3 Hours)

Name:
Signature:

Application Number:
Date:

Group A

Answer the questions selecting Right alternative

30 X 1 = 30

1. How many junctions a Bipolar Junction Transistor has?
 - a. 1
 - b. 2
 - c. 3

2. To make a Bridge rectifier at-least how many diodes are required?
 - a. 4
 - b. 2
 - c. 6

3. Forward current in a p-n junction diode flows when not in Breakdown –
 - a. In both the directions
 - b. In one direction
 - c. None of the above

4. TRIAC can be represented
 - a. By two SCRs connected in anti-parallel combination
 - b. By two SCRs connected in parallel combination
 - c. By two SCRs connected in series combination

5. Which among the following logic gates are Universal Logic gates –
 - a. XOR and XNOR gate
 - b. NAND and NOR gate
 - c. OR and XNOR gate

6. SN74LS00 indicates –
 - a. TTL logic gate
 - b. CMOS logic gate
 - c. ECL logic gate

7. A half adder can be made using –
 - a. Only one NAND gate and one NOR gate
 - b. Only one XOR gate and one NAND gate
 - c. Only one AND gate and one XOR gate

8. A multiplexer –
 - a. Selectively decodes multiple outputs from one input
 - b. Selectively decodes one output from many input
 - c. Selectively decodes multiple outputs from multiple input

9. Which among the following Flip-flops suffers Race around condition –
 - a. JK Flip Flop
 - b. SR Flip Flop
 - c. D Flip Flop

10. A counter is an example of –
 - a. Sequential Circuit
 - b. Combinational Circuit
 - c. None of the above

11. Which among the following parameters should be checked while purchasing Rectifier diodes?
 - a. Peak Inverse Voltage
 - b. Length of the Leads
 - c. Knee Voltage

12. Zener diodes usually work –
 - a. In Forward Bias
 - b. In Reverse Bias
 - c. When it is not biased

13. Which color bands would be present on a resistor of 33 Kilo Ohms, $\pm 5\%$ –
 - a. Red, Red, Orange, Silver
 - b. Orange, Orange, Red, Golden
 - c. Orange, Orange, Orange, Golden

14. A variable capacitor can be used to design RF stage of –
 - a. A Television
 - b. A Logic gate
 - c. A Rectifier

15. An electrolytic polar capacitor used to have –
 - a. A positive lead and a negative lead
 - b. No particular lead marked as positive or negative
 - c. Both the leads marked as positive.

16. In order to transmit audio it should be –
 - a. Demodulated
 - b. Attenuated
 - c. Modulated

17. Heat-sink is used with transistors for –
- Bias Stabilization
 - Avoiding thermal runaway
 - Providing support for mounting
18. How will you combine two capacitors of $100\mu\text{F}$ to make one $50\mu\text{F}$ capacitor?
- By series combination
 - By parallel combination
 - By anti-parallel combination
19. Why FM signals remain less affected by noise as compared to AM?
- It needs huge power to generate FM
 - Bandwidth requirement is less in FM
 - FM doesn't have any change in Amplitude.
20. What will be the value of a capacitor marked 103 on it?
- $0.1\mu\text{F}$
 - $0.01\mu\text{F}$
 - $0.001\mu\text{F}$
21. The number of bits used to store a BCD digit is:
- 8
 - 4
 - 2
21. The weight of the LSB in a binary number is:
- 1
 - 4
 - 2
22. Ohm's law describes the mathematical relationship between
- ohms, kilo-ohms, and mega ohms
 - resistor size and resistor value
 - resistance, voltage, and current
23. 7200 mV is same as
- $7.2\mu\text{V}$
 - 7.2 V
 - 72 V
24. The unit for frequency is
- hertz
 - ampere
 - second

25. What input values will cause an AND logic gate to produce a HIGH output?
- At least one input is LOW
 - All inputs are HIGH
 - All inputs are LOW
26. An astable multivibrator is a circuit that:
- has two stable states
 - produces a continuously High output signal
 - has two unstable states
27. Since zener diodes are destroyed by excessive current, circuits must have:
- higher voltage sources
 - more dopants
 - current limiting resistors
28. Forward bias of a silicon P-N junction will produce a barrier voltage of approximately how many volts?
- 0.3
 - 7.0
 - 0.7
29. The determination of a digital signal's frequency and waveshape is best accomplished with which test equipment?
- an oscilloscope
 - a logic probe
 - a frequency generator
30. What is the frequency of DC signal?
- 50 Hz
 - 60 Hz
 - 00 Hz

