

**Syllabus for written test to the post of Junior Engineer (Trainee- Electronics)
Chhattisgarh State Power Companies limited.**


Section -A -20 marks - (20 multiple choice type questions of each 1 mark)

General Knowledge

- Current events — National & International
- Constitution of India, Political system and Indian Administrative system
- Knowledge of Chhattisgarh, geographical location, natural resources, industries, education, administrative structure, history & culture of Chhattisgarh, ancient history, freedom struggle, major archaeological tourist centers of the state.

2. Reasoning and arithmetic

- Coding — Decoding
- Number series
- Non-verbal series
- Directions
- Decision making
- Alphabet series
- Clocks & calendars
- Number ranking
- Cube & dice
- Mirror images
- Blood relations
- Arithmetical reasoning
- Embedded figures
- Arithmetic - multiplication, division, addition, subtraction etc.


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Section –B-80 marks - (80 multiple choice type questions of each 1 mark)

1. Electronic Components & Materials

- Conductors, Semiconductors & Insulators
- Magnetic material
- Jointing and Cleaning materials for U/G Copper cable & OFC
- Cells and Batteries (Chargeable and Non-chargeable)
- Relays
- Switches
- MCB & Connectors

2. Electronic Devices & Circuits

- PN Junction diodes
- Thyristor
- Diode and triode circuit.
- Junction Transistors
- Amplifiers
- Oscillators
- Multivibrator
- Counters
- Rectifiers
- Invertors and UPS

3. Digital Electronics

- Number System & Binary Codes
- Boolean Algebra & logic gates
- Combinational & Sequential logic circuits
- A/D & D/A Convertors
- Counters
- Memories

4. Linear Integrated Circuit

- Introduction to operational Amplifier
- Linear Applications
- Non Linear Applications
- Voltage Regulators
- Timers
- Phase lock Loop

5. Microprocessor & Microcontroller

- Introduction to microprocessor
- 8085 microprocessor working
- Assembly Language programming
- Peripherals & other Microprocessors
- Microcontrollers

6. Electronic Measurement

- Measuring system
- Basic principles of measurement

- Range Extension methods
- Cathode ray oscilloscope
- LCD
- LED panel
- Transducer

7. **Communication Engineering**

- Introduction to communication
- Modulation techniques
- Multiplexing techniques
- Wave propagation
- Transmission line characteristics
- OFC
- Fundamentals of Public Address systems
- Electronic exchange
- Radar
- Cellular & Satellite Communication

8. **Data Communication & Network**

- Introduction to data communication
- Hardware & interface
- Introduction to Networks & Networking devices
- Local Area network & Wide Area network
- Internet working

9. **Computer Programming**

- Programming concepts
- Fundamentals of 'C' and C++
- Operators in 'C' and C++
- Control Statements
- Function
- Array String & Pointers
- File Structure
- Data Structure
- DBMS

10. **Basic Electrical Engineering**

- DC Circuits
- AC Fundamentals
- Magnetic, Thermal and Chemical effects of Electric current
- Earthing- Installation, Maintenance, Testing


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