TANGEDCO

Role: ASSISTANT ENGINEER

1. Electrical Engineering Syllabus

- **Electric Circuits and Networks**: Basic circuit theory, network theorems, transient and steady-state analysis, resonant circuits, two-port networks.
- **Control Systems**: Concepts of feedback, transfer function, stability, Bode and Nyquist plots, compensators, state-space analysis.
- **Electrical Machines**: Transformers, synchronous machines, induction motors, DC machines, machine dynamics, and power electronics.
- **Power Systems**: Power generation, transmission lines, fault analysis, protection systems, load flow studies, voltage control, and stability analysis.
- **Measurements and Instrumentation**: Electrical measurements, transducers, sensors, and data acquisition.
- **Power Electronics**: Rectifiers, inverters, choppers, and AC/DC converters.
- **Renewable Energy Sources**: Solar power, wind energy, and other non-conventional energy sources.

2. Mechanical Engineering Syllabus

- **Engineering Mechanics**: Statics, dynamics, kinematics of particles, rigid body motion.
- **Strength of Materials**: Stress-strain analysis, shear force and bending moment diagrams, columns, and beams.
- **Thermodynamics**: Laws of thermodynamics, entropy, refrigeration and air conditioning, heat transfer.

- **Fluid Mechanics and Machinery**: Properties of fluids, fluid statics and dynamics, turbines, pumps.
- **Manufacturing Technology**: Metal cutting, casting, welding, forging, and other machining processes.
- **Machine Design**: Design of machine elements, springs, bearings, gears, and brakes.
- **Heat Transfer**: Conduction, convection, and radiation, heat exchangers, insulation.

3. Civil Engineering Syllabus

- **Structural Analysis**: Trusses, beams, frames, bending moment, and shear force diagrams.
- **Construction Materials**: Types and properties of building materials, concrete technology, and mix design.
- **Geotechnical Engineering**: Soil mechanics, properties of soil, bearing capacity, and foundation engineering.
- **Surveying**: Leveling, GPS, EDM, Theodolite, total station, maps, and measurements.
- **Environmental Engineering**: Water and wastewater treatment, solid waste management, and environmental impact assessment.
- **Transportation Engineering**: Traffic engineering, highway design, pavement materials, and construction.
- **Hydraulics and Water Resources Engineering**: Fluid properties, open channel flow, water distribution systems, dams, and canals.

4. General Knowledge and Aptitude

- **General Knowledge**: Tamil Nadu history, culture, geography, current affairs, and general science.
- **Aptitude**:
    - **Numerical Ability**: Percentages, ratios, averages, time and distance, time and work, profit and loss.
    - **Logical Reasoning**: Coding and decoding, series, syllogisms, blood relations.
    - **Verbal Ability**: Grammar, vocabulary, reading comprehension, and sentence arrangement.

5. Recommended Strategy

- Focus on key topics within your engineering field.
- Review Tamil Nadu-specific general knowledge.
- Practice with previous years' question papers to understand the question format and difficulty.