

**STRUCTURE OF THE TEST FOR THE POST OF E.E. (TRANS), Dy E.E. (TRANS/CIVIL) & JE (TRANS)-TRAINEE
AGAINST ADVT. NO. 3/2011**

Sr No.	Section	Number of Questions	Marks	Time
1	Test of Professional Knowledge	50	110	Composite time of 2 hours for all the sections together
2	General Aptitude, Logical / Analytical Reasoning, Problem Solving, etc.	80	40	
Total		130	150	

- Aptitude test will contain multiple choice objective questions on General Aptitude, Logical / Analytical Reasoning, Problem solving, etc.
- Professional Knowledge Test will be based on the respective subject specialization; such as Civil Engineering, Electrical Engineering, etc. The Professional knowledge test questions will also be of multiple choice objective questions. They will be based on the educational qualification and experience notified in the advertisement and will also have a special emphasis on the specific requirement of the Electricity Transmission Company. The syllabus for various posts is as given below:

**BROAD OUTLINE OF PROFESSIONAL KNOWLEDGE TEST SYLLABUS FOR THE POST OF EXECUTIVE
ENGINEER (TRANS) & DY. EXECUTIVE ENGINEER (TRANS) ADVERTISED VIDE ADVT. NO. 3/2011**

(A) EHV Transmission Lines:

- 1) Survey, profiles, clearances, tower spotting, sag-tension, normal towers extensions, special towers, PTCC, Railway, Aviation, Forest & other statutory approval.
- 2) Forces on towers, design criteria, F.O.S.
- 3) Choice of Conductor size & configuration, resistance, reactance, capacitance of lines & their impact on design & performance of lines.
- 4) Conductor / Earthwire hardware & accessories, Insulators, string efficiency, Tower Accessories.
- 5) Earthing –types, criteria, Groundwire.
- 6) Foundations of towers, stub-setting, Erection of towers, stringing.
- 7) Operation & Maintenance of lines (live line & dead line) monitoring performance parameters, trouble shooting, patrolling.
- 8) Testing, commissioning of lines.
- 9) Plans/targets of MAHATRANSCO, Power status of the state & the country.
- 10) Protective relaying systems.

(B) EHV Sub-Stations:

- 1) Choice of Voltage, requirement of land, acquisition process.
- 2) Fault level, choice of rating of equipments & Busbars.
- 3) Earthing System – design & construction, illumination.
- 4) Control & relaying systems, control & power cabling.

- 5) Various Bus-bar types & their choice, layouts.
- 6) Ratings of Circuit breaker, CTs, PTs, CVTs, Las, etc.
- 7) Erection, commissioning, testing of power transformers, drying out transformer oil, fire fighting.
- 8) Condition monitoring of equipment
- 9) Management of EHV Projects.
- 10) O&M of EHV Sub-Stations.
- 11) PLCC, Battery, Battery charging, auxiliary supply.
- 12) ABT metering, load dispatch, open access & other matters relating to transmission provided for Electricity Act-2003.

(C) STU:

- 1) Power System analysis studies.
- 2) Commercial mechanism of grid operation.
- 3) regulatory requirements and commitments.

Note: The question will be mainly on some or all of the broad areas given in the syllabus but it is not exhaustive. There may be some questions on other relevant areas also.

BROAD OUTLINE OF PROFESSIONAL KNOWLEDGE TEST SYLLABUS FOR THE POST OF DY. EXECUTIVE ENGINEER (CIVIL) ADVERTISED VIDE ADVT. NO. 3/2011

(A) EHV Transmission Lines:

- 1) Survey, profiles, clearances, tower spotting, PTCC, Railway, Aviation, Forest & other statutory approvals.
- 2) Forces on towers.
- 3) Foundations of towers, stub setting.

(B) EHV Sub-stations:

- 1) Land Acquisition- Procedures, Rules, Regulations & Acts, Land requirement.
- 2) Soil Mechanics: Soil properties, soil investigation required for substation.
- 3) Concrete Technology – Concrete mix design. Material Cement / Sand / Metal / Reinforcement.
- 4) Reinforcement detailing – Reading of drawings, Bar bending Schedule etc.
- 5) Construction Technology – Material consumption for different items, estimate preparation, Rate analysis, Specifications & mode of measurements. Rehabilitation of old structures, Repairs/water proofing etc. Bonds of brick masonry, stone masonry etc.
- 6) Theory of Structures – Elementary knowledge Shear force/ Bending movement, Forces on structures like portal retaining wall, water tanks.
- 7) Preliminary knowledge of water supply and Sanitary Engineering.

Note: The question will be mainly on some or all of the broad areas given in the syllabus but it is not exhaustive. There may be some questions on other relevant areas also.

BROAD OUTLINE OF PROFESSIONAL KNOWLEDGE TEST SYLLABUS FOR THE POST OF JR. ENGINEER
(TRANS) - TRAINEE ADVERTISED VIDE ADVT. NO. 3/2011

- Professional Knowledge Test will contain questions on Electrical Engineering/Power Engineering field which candidate have studied at the Degree level.
