

Maharashtra State Electricity Transmission Co. Ltd.



MAHATRANSCO

WRITTEN TEST FOR SELECTION
TO VARIOUS POSTS

INFORMATION HANDOUT

(A) GENERAL INSTRUCTIONS

1. The booklet details pertaining to various aspects of the examination you are going to take and important instructions about the related matters. **The assessment of answersheets for Objective Type Tests will be done by a computerised machine, hence you should carefully read instructions regarding handling of the answersheet and the method of marking answers.** You are advised to study this booklet carefully as it will help you in preparing yourself for the examination.
2. Before appearing for the written examination you should strictly ensure that you fulfil the eligibility criteria in all respects. If at any stage, it is found that a candidate does not satisfy the eligibility criteria or the information furnished by him/her in the application form is incorrect, his/her application will stand cancelled and he/she will be dismissed if appointed, for want of meeting the eligibility criteria.
3. Canvassing in any form will disqualify the candidate.
4. **Particulars to be Noted** : Please note carefully your **Roll Number, date, time and venue for** the examination given in the call letter. Please also note that this call letter does not constitute an offer of appointment.
5. **Punctuality in Attendance** : You should be present at the examination hall at the time given in the call letter. Candidates arriving late will not be permitted to enter the Examination Hall.
6. **Call letter to be Surrendered** : Please bring the call-letter with photograph pasted in the space provided, when you come to appear for the examination. You have to make your signature on the call letter **only in the presence of the Invigilator** in the examination hall and hand it over to the invigilator. If you come to the examination hall without the call letter or without the photograph affixed on it, you will **not** be permitted to appear for the examination.
7. **Compliance with Instructions** : You should scrupulously follow the instructions given by test administrators and the invigilators at the examination venue at all the stages of the examination for which you have been called. If you violate the instructions you will be disqualified and may also be asked to leave the examination hall.
8. **Use of Calculators, Cell-phones, Pagers, Books, Notes, Log tables, Slide-rules etc. and Copying or Receiving/Giving Assistance Not Allowed** : Any candidate who is found using prohibited articles or copying or receiving or giving assistance will be disqualified.
9. **Sample Answersheet for objective test and How to fill information on it** : A sample answersheet is attached to this booklet. Fill in the required biodata and other information on this answersheet for your practice and bring it with you to the examination hall. You will get a similar answersheet in the examination hall, on which you will have to copy the biodata and other information already filled in by you on the sample answersheet. How to fill in the information on the answersheet is explained later in this handout with the help of a specimen answersheet with biodata of a fictitious candidate.
10. **Use of Ball Pen with Black Ink** : You are required to fill in the information on the answersheet which you will get in the examination hall, using black ball-point pen. You are required to **mark your answers using a black ball point pen** Therefore, you should bring with you **two ball-point pen with black ink**.
11. **Handling Answersheet** : **Please handle your answersheet with extreme care and keep it dust-free. If it is mutilated, torn, folded, wrinkled or rolled, it may not be evaluated.**

After the test is over, **you should hand over the answersheet and test booklet to the invigilator** before leaving the room. Any candidate who does not return the test booklet and answersheet or is found to attempt to take or pass on the test booklet or answersheet inside or outside the examination hall will be disqualified and the Company may take further action against him/her as per rules.

12. **Rough work to be done on the booklet** : You are advised to do all the necessary rough work only on test booklet itself. You **SHOULD NOT** do your rough work on the answersheet or any other paper. If any rough work is done on the answersheet, your answersheet will not be assessed.

13. **Write Roll No. on the Test Booklet :** You should write your Roll No. in the space provided on the cover page of the test booklet. If you do not write your Roll No. on the test booklet your answersheet will not be assessed.
14. There will be a penalty for wrong answer. For each wrong answer $\frac{1}{4}$ i.e. 0.25 mark will be deducted.

(B) STRUCTURE OF THE TEST

Sr. No.	Section	No. of Ques.	Marks	Time
1	Professional Knowledge	50	110	Composite time of 120 Minutes for all the Sections together
2	General Aptitude	80	40	
	TOTAL	130	150	

(C) SAMPLE QUESTIONS

Given below are some sample questions on Section II. i.e. General Aptitude Questions for section I i.e. Professional Knowledge Test will be based on the respective subject specialization. "The broad outline of professional Knowledge Test Syllabus for the posts of Executive Engineer (Trans / Civil) and Dy. Executive Engineer (Trans / Civil) is given below. Please note that the questions will be mainly on some or all the broad areas given in the syllabus. But it is not exhaustive. There may be some questions on other relevant areas also."

SYLLABUS (TRANS) - Executive Engineer (Trans) / Dy.Executive Engineer (Trans).

(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 and 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 ratings 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-Station.
- (11) PLCC, Battery, Battery charging, auxiliary supply.
- (12) ABT metering, load dispatch, open access & other matters relating to transmission provided for in EA-2003.

(C) STU

- (1) Powers System analysis studies.
- (2) Commercial mechanism of grid operation.
- (3) Regulatory requirements and commitments.

SYLLABUS (CIVIL) - Dy.Executive Engineer (Civil).

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 Moment, Forces on structures like portals, retaining wall, water tanks.
- 7) Preliminary knowledge of water supply and Sanitary Engineering.

SYLLABUS - Jr. Engineer (Trans) - Trainee

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

For Multipost Candidates :

If you have applied for more than one post, you have to take an additional Test of Professional Knowledge for the additional post you have applied for.

The Sample questions given below for Section II. Viz. General Aptitude are only illustrative and **Not** exhaustive in terms of types and difficulty level.

Mark your answers to the sample questions on the Specimen of the answer sheet given elsewhere in this booklet.

GENERAL APTITUDE

- Q.1.** Some leaders are dishonest. Satyapriya is a leader. Which of the following inferences definitely follows from these two statements ?
(1) Satyapriya is honest (2) Satyapriya is dishonest (3) Leaders are generally dishonest
(4) Some leaders are honest (5) Satyapriya is sometimes dishonest
- Q.2-4.** Read the information given below and answer the questions.
Six plays (A), (B), (C), (D), (E) and (F) of a famous playwright are to be staged one on each day from Monday to Saturday.
The schedule of the plays is to be in accordance with the following
(1) A must be on the previous day of the day on which E is staged.
(2) C must not be staged on Tuesday.
(3) B must be on a day which follows the day on which F is staged.
(4) D must be staged on Friday only and should not be immediately preceded by B.
(5) E must not be staged on the last day of the schedule.
- Q.2.** Which of the following is the schedule of plays, with the order of their staging from Monday ?
(1) E A B F D C (2) A F B E D C (3) A F B C D E (4) F A B E D C (5) None of these
- Q.3.** Play C cannot definitely be staged on which of the following days in addition to Tuesday ?
(1) Monday (2) Wednesday (3) Thursday (4) Friday (5) Saturday
- Q.4.** Play D is between which of the following pairs of play's ?
(1) C and E (2) E and F (3) A and E (4) B and E (5) C and F
- Q.5.** In a code language "ENGINEER" is written as "NEIGENR". How is "COMPRESSOR" written in that code language ?
(1) OCPMERSOR (2) OCMPESSRO (3) OCPMERSRO
(4) ROOCPMERS (5) None of these
- Q.6.** If n is an odd integer, which of the following must be odd ?
I. $2n + n$ II. $n + n + n$ III. $n \times n \times n$
(1) I only (2) II only (3) III only (4) I and III only (5) I, II and III.

- Q.7.** The strength of PGDBA class is 42 of whom 33.3% are experienced and others freshers. There are 20 females in the class of whom 80% are freshers. How many experienced male students are in the class ?
 (1) 4 (2) 10 (3) 12 (4) 16 (5) Cannot be determined
- Q.8.** Manu walked from Pali to Roha and back. The distance between Pali and Roha is one km. His speed while going to Pali was 5 km. per hour and it was 4 km. while returning from Roha. What was Manu's average speed in km. per hour for the entire two-way trip ?
 (1) 5 (2) $4\frac{1}{2}$ (3) $4\frac{4}{9}$ (4) 4 (5) None of these
- Q.9.** The following sentence is broken into 4 parts. Find out if any of the parts has an error, and the number of that part is your answer. If no part has an error, your answer is 5, i.e. No error. (Please, do not look for an error in punctuation).
 Dara, being an excellent football player, / received a fabulous offer /
 (1) (2)
 to join the popular football club / of the football-fan country, Italy . No error
 (3) (4) (5)
- Q.10-11. Directions:** In the question given below, either a part or the entire sentence is printed in **bold**. The sentence is followed by five ways of writing the **bold** part. Answer choice (1) repeats the original or there is no change; the other answer choices vary. If you think that the original phrasing is the best i.e. no change is required; choose (1) as your answer. If you think that any other answer choice is the best, select that as your answer and indicate it on your answersheet properly.
- Q.10. After having finished the lecture**, the speaker asked if there were any questions.
 (1) No change (2) Finishing the lecture (3) Having finished the lecture
 (4) When the lecture finished (5) Having been finished the lecture
- Q.11.** Which of the following words completes the sentence meaningfully ?
 Since electricity is not available in _____, we must use it very economically.
 (1) parts (2) shifts (3) load-shedding (4) abundance (5) generators

PLEASE NOTE :

1. Important points to note :

- (i) Use Ball Point Pen with black ink to indicate your answers to objective type questions.
- (ii) Do not leave any unintended or stray ink marks or smudges anywhere on the answersheet.
- (iii) Do not mark or leave two darkened ovals against one question number; otherwise it will be read as a question with more than one mark and will be considered as **wrongly answered**.

(D) : METHOD OF SHOWING ANSWERS TO OBJECTIVE TYPE QUESTIONS

How to show your answer : Each question is followed by answer choices which are numbered 1, 2, 3, 4 and 5. Select the most appropriate among them as answer. Then by using ball point pen blacken the oval bearing the correct answer number against the serial number of the question. For example, if the answer to Question Number 2 is answer number 5, it is shown as follows :

2. (1) (2) (3) (4) (5)

Please note that the oval should be dark enough and should be filled in as completely as possible. You need not make special efforts to darken any oval artistically.

How to Answer : Please think carefully before darkening the oval ,as you will not be able to erase the answer once the oval is darkened. The half darkened or tainted ovals as given below should be avoided while answering the question.

(1) (2) (3) (4) (5)

(Smudge left in oval no. 3 and the fresh answer in oval no. 5 will be read as two answers 3 & 5 and therefore no credit will be given even if the answer no. 5 happens to be the correct answer.)

(E) HOW TO FILL IN INFORMATION ON THE ANSWERSHEET

SIDE – 1 : USE BALL PEN FOR FILLING UP INFORMATION

(Box No. 1) Name of the Organisation : The name of Organization “MAHATRANSCO” in **English**

(Box No. 4) Name of the Candidate : Write your name and darken the corresponding ovals.

(Box No. 5) Roll No. : Fill in this information by using ball-point pen and darkening the corresponding ovals.

(Boxes No. 2, 3 & 6) Test Battery No., Test Booklet Sr. No. and Test Form No. : This information is printed on the cover page of test booklet. You have to copy it on your answersheet, using ball point pen, from the test booklet you will receive at the time of the examination. Darken corresponding ovals for Test Form No.

(Box No. 7) Post : Write and darken the code for your post as given in Annexure.

(Box No. 8) Category : Write and darken the code for your category as given in Annexure.

(Box No.9) Date of Exam : write the date of Exam in this box.

(Box No. 10) Center of Exam : write the name of center from where you are appearing in the examination.

(Box No. 11) Candidate’s Signature : You should sign in the space provided for. Your signatures on the application, call letter and answersheet should be identical.

(Box No. 12) Invigilator’s Signature : Invigilator will sign in this Box in the examination hall.

Mark your answers to the sample question in this specimen answersheet given below.

SPECIMEN ANSWERSHEET PART FOR OBJECTIVE TEST

1	①	②	③	④	⑤	7	①	②	③	④	⑤
2	①	②	③	④	⑤	8	①	②	③	④	⑤
3	①	②	③	④	⑤	9	①	②	③	④	⑤
4	①	②	③	④	⑤	10	①	②	③	④	⑤
5	①	②	③	④	⑤	11	①	②	③	④	⑤
6	①	②	③	④	⑤						

HOW TO FILL-UP INFORMATION IN THE ANSWERSHEET.

The Biodata of fictitious candidate is given below.

- | | | | |
|----|-----------------------|---|------------------------|
| 1. | Name of the Candidate | : | OAK OM MAHESH |
| 2. | Date of Examination | : | 29.05.2011 |
| 3. | Organization | : | Mahatransco |
| 4. | Centre of Examination | : | Mumbai |
| 5. | Post | : | Executive Engg.(Trans) |
| 6. | Category | : | OPEN |
| 7. | Roll Number | : | 1101090032 |

Please Fill up Your Biodata particulars in the blank answersheet on next page and take it to the examination hall. This will help you copy your biodata information in actual answersheet accurately.

ANNEXURE

Post	code
Executive Engineer (Trans)	1
Dy. Executive Engineer (Trans)	2
Dy. Executive Engineer (Civil)	3
Jr. Engineer (Trans)-Trainee	4

Category	Code
SC	1
ST	2
VJA	3
NTB	4
NTC	5
NTD	6
SBC	7
OBC	8
OPEN	9

