

ADVERTISEMENT No. JE/01/2021

**MADHYA GUJARAT VIJ COMPANY LIMITED  
INVITES  
APPLICATIONS FOR THE POST OF  
VIDYUT SAHAYAK (JUNIOR ENGINEER - ELECTRICAL)**

Madhya Gujarat Vij Company Limited is a Power Distribution Company of erstwhile Gujarat Electricity Board having Offices at different locations in Gujarat State. MGVCL offers a challenging and rewarding career to young and dynamic Graduates.

**IMPORTANT DATES:**

Date of Advertisement	<u>21.01.2021</u>
Start Date and Time of Registration	<u>21.01.2021 10.30 AM</u>
Last Date & Time of Registration	<u>14.02.2021 6.00 PM</u>

APPLICATIONS ARE INVITED FOR THE POST OF VIDYUT SAHAYAK (JUNIOR ENGINEER) UNDER MGVCL FROM THE ELIGIBLE CANDIDATES FROM GENERAL (UR), SC, ST, SEBC AND EWS CANDIDATES AS FOLLOWS:

01	Job Title	Vidyut Sahayak (Junior Engineer- Electrical)
02	Fixed Remuneration	<p>Fixed Remuneration Respectively per month.</p> <p>1<sup>st</sup> Year      Rs. 37000/-            2<sup>nd</sup> Year      Rs. 39000/-            3<sup>rd</sup> Year      Rs. 39000/-            4<sup>th</sup> Year      Rs. 39000/-            5<sup>th</sup> Year      Rs. 39000/-</p> <p>No other allowance or benefits would be admissible except coverage under Personal Accident Policy, Reimbursement of TA/DA as per GSO-333 dated 03.12.2003.</p>
03	Scope of Career Development / Prospective	The selected candidate shall be appointed initially for the period of <b>Five years</b> as Vidyut Sahayak (Junior Engineer) and may be considered for appointment to the post of Junior Engineer on regular establishment, in the pay scale of <b>Rs. 45,400-1,01,200/-</b> subject to satisfactory completion of Five years as Vidyut Sahayak.
04	Required skill	<ul style="list-style-type: none"> <li>The candidate should possess knowledge of Computer Operations.</li> <li>Good command over English and Gujarati Language.</li> </ul>
05	Qualification	<ul style="list-style-type: none"> <li>Full time/ regular B.E. (Electrical)/ B.Tech (Electrical) only from recognized University duly approved by UGC/AICTE with minimum 55% in 7<sup>th</sup> and 8<sup>th</sup> Semester without ATKT.</li> </ul>
06	Age Criteria	<ul style="list-style-type: none"> <li>For Unreserved Category : 35 years and</li> <li>For Reserved Category: 40 years on the date of advertisement (Date:21.01.2021).</li> </ul>

Relaxation in upper age limit to other categories shall be given as under	
Category	Relaxation
Female Candidate	05 Years
Person with Disability candidate	10 Years Suitable disability for the post : One Leg (OL), Acid Attack (AC) and Hearing Handicapped (HH)
Ex. Armed Force Personnel	10 Years
Dependent of Retired Employee of GUVNL & Subsidiaries	Upto age of 40 years (will be considered only on submission of undertaking)
<ul style="list-style-type: none"> <li>Maximum age relaxation in upper age limit shall be considered upto the age of 45 years only.</li> <li>The above age criteria are as per the “Yuva Swavlamban Scheme” of Govt. of Gujarat.</li> </ul>	

**07. Vacancies:**

At present, there are **19 vacancies**, however, in future more vacancies are likely to occur till one year from announcement of result.

The Roster position for current vacancies is as below:

Total	Roster wise Vacancies are as under										
	SC		ST		SEBC		UR		EWS		PH
	M	F	M	F	M	F	M	F	M	F	
19	02	00	01	00	05	02	06	02	01	00	03 SEBC

{Expected vacancy during next one year:- 25}

- The stated vacancies with roster position are probable and the actual vacancies and roster position may vary. Actual vacancies and subsequent vacancies are subject to promotions, retirement, separation on any other account, sanction, abolition of post, compassionate appointments, departmental recruitment etc. No candidate shall claim a right based on the above stated vacancies/roster position.
- State Government policy for reservation of women & Domicile shall be followed.

**08. Fees (Non-Refundable): (only online payment will be accepted)**

<p><b>Fees</b> <b>(Non-refundable)</b></p>	<p><b>Rs.500.00 for UR, SEBC and EWS candidates</b> <b>Rs.250.00 for ST &amp; SC candidates</b></p> <ul style="list-style-type: none"> <li>• If PWD (Persons with Disability) candidate belongs to SC or ST category and fulfills the criteria, fees payable shall be Rs.250/-</li> <li>• <b>Candidate has to pay application fees On-line through Credit Card / Debit Card / Net Banking.</b></li> <li>• Bank charges shall be borne by candidate.</li> <li>• Application fee once paid shall not be refunded or shall not be adjusted in any subsequent Recruitment Process, under any circumstances.</li> <li>• No other mode of payment i.e., Demand Draft, Money Order, Postal Order, Cheque etc. is acceptable.</li> </ul>
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**GENERAL TERMS AND CONDITIONS:**

The Candidates are requested to carefully read the terms and conditions stated below:

01. Candidates are required to submit **ONLINE APPLICATION** only.
02. The candidates shortlisted for written test/Online test on basis of their “on line applications” shall not be required to submit photocopies of all the relevant certificate at present. The photocopies of all the relevant certificate shall be submitted as and when required and subsequently, the original certificates for verification as and when required.
03. The Management reserves the right to short-list, select and reject any candidates for Written Test/Online test as the case may be for selection.
04. The Management reserves the right to cancel the Selection List / Waiting List at any time at its sole discretion, without assigning any reasons thereof.
05. Filling up of the post is at the discretion of Management based on suitability of candidates. The management in all matters relating to eligibility, acceptance or rejection of the application made, shall be final and management will not entertain any enquiry or correspondence in this regard.
06. For PWD candidates, One Leg (OL), Acid Attack (AC) and Hearing Handicapped (HH) can apply and shall have to submit Certificate of Civil Surgeon/Government Designated Authority, indicating existing Percentage of disability. Their applications will be considered as per rules of the Company. As per prevailing rules of the Company and Govt. of Gujarat, candidates having 40% and above disability shall be considered PH in categories stated above.
07. The candidates who have been given grades in their result (graduation/post-graduation) shall have to submit a certificate issued by their University/Institute specifying percentage equivalent to the grades obtained by them along with decimals.
08. Minimum 60% of representation in selection will be of local resident of Gujarat State as per GR dtd.31.03.1995. Candidate shall have to submit the Domicile Certificate of being

resident of Gujarat State if he/she claims appointment under 60% quota.

09. Mere submission of Online application does not guarantee the adequacy of candidature for being considered for the further selection process.
10. The tentative syllabus for the exam will be including but not limited to following topics/areas and emphasis could differ.

The exam will be conducted by online mode considering the number of candidates registered.

Section - I	General Knowledge	10%
Section - II	English Knowledge	10%
Section - III	Electrical Engineering*	60%
Section - IV	Computer Knowledge	10%
Section - V	Gujarati Language & Grammar	10%

**“The Question Paper Will Be In English Language Only”**

**Note:-**

\*Section-III Includes topic like:

- Switchgear & protection (MC/LV) & LT Switchgear design and testing etc.
- Distribution HT/LT Line parameters.
- Low Voltage constraint & resolving thereof.
- Non-conventional Energy sources like Wind, Solar, Biomass etc.
- Present Power Sector scenario in India and others Electrical Engineering topics etc.
- Performance of line fault analysis.
- Measurement of Electrical Power.
- Functions of capacitors & reactors.
- Power Engineering.
- Distribution Network Installation & load studies.
- Analysis of Dist. Transformers, Meters & Testing.

11. The question paper for the exam shall be consisting of 100 questions and the paper shall be of 100 marks. There shall be negative marking system and 1/4<sup>th</sup> mark for each wrong answer shall be deducted to arrive at total marks scored.
12. In case of Written Test examination, the evaluation of the OMR Sheets of the written test shall be evaluated on computer, as per entries made in OMR Sheets by the Candidates. As the evaluation done on the Computer by scanning thereby eliminating manual evaluation, rechecking or inspection of OMR Sheets, subsequent to written test, will not be entertained by the Company.
13. In case of Online Test examination, if the applications are received in large number, then examination may be held in multiple batches and candidates scores should be as per normalization methodology before result declaration as per attachment.

14. As per GSO-3, the minimum eligibility cut off marks for selection will be 50 and above marks for unreserved candidate and 45 and above for reserved candidates. However, the selection will be made purely on the basis of merit considering available vacancies and reservation rules.
15. 5% marks (of secured marks in Exam) over and above actual marks secured shall be added in case of Widow Female Candidates. The widow female candidate, if remarried shall not be given advantage of grace of 5 % marks. Further, the widow candidate shall categorically state so and inform if she is remarried, with necessary documentary proofs.
16. While preparing selection list, if two or more candidates found with equal marks in Exam, they will be kept in merit according to their date of birth i.e. older will be kept in priority to younger and if the date of birth is also found same, then they will be kept in priority according to alphabet seniority of name. The Selection List as and when required as per the vacancy position shall be drawn from result published. The result published shall be valid for the period of one year from the date of publication.
17. In case of name or caste differ due to marriage or any other reason in educational certificates; then attach the copy of Gazette for transfer of name or caste, failing which, the candidature for the further process will be rejected.
18. Caste (Reserved Category) Certificate of Gujarat State only will be considered.
19. SEBC candidates who fulfill the qualification and age criteria shall have to submit valid Non- Creamy Layer Certificate issued (in Gujarati - પરિશિષ્ટ “ક”/ પરિશિષ્ટ-૪ (ગુજરાતી)) by the Competent Authority of Gujarat State.
20. EWS candidates who fulfil the qualification and age criteria shall have to submit valid certificate as per resolution No. EWS/122019/45903/A dtd. 23.01.2019 and dt. 25.01.2019 in prescribed format (in English : Annexure - KH” or in Gujarati - પરિશિષ્ટ – “ગ”) issued by the Competent Authority of Gujarat State.
21. No travelling fare will be paid to any candidates for attending the Written Test/Online Test as the case may be.
22. The result of the test shall be published by COMPANY and shall be displayed on Company’s website. The Selection List as and when required as per the vacancy position shall be drawn from result published. The result published shall be valid for the period of one year from the date of publication.
23. Candidates are requested to apply Online only, if they are fulfilling requisite criteria. Since, we are not seeking all the documents at the time of application submission written test/online test; candidate has to doubly ensure that he/she fulfill all the requisite criteria. All the documents of selected Candidates shall be verified at appropriate stage and if found not fulfilling any criteria, his/her candidature shall be cancelled immediately and his/her shortlisting in selection list shall not be a ground for claiming employment/ recruitment.
24. Candidates are requested to visit on [www.mgvcl.com/career](http://www.mgvcl.com/career) for regular updates regarding schedule of test and other relevant notifications.

25. In case of selection, the candidates have to fulfill the requisite physical fitness standards as per company's rules.
26. Applicant who has completed the task No. :- 6 (i.e. "Online payment of Recruitment fees") of Online Application process shall only be considered for further selection process. Candidates whose online payments were successful will be considered eligible for further process.
27. Interested candidates meeting above criteria may apply "on line" **and complete all the tasks as mentioned in online registration portal on or before 14.02.2021 before 06.00 P.M..**
28. Application received after closing date and time shall not be accepted under any circumstances.
29. Canvassing in any form shall debar the candidate from selection.

### Help Desk

For any query, you may contact on our Help Desk No. **0265-2340114** which will be available between 10 am and 6 pm on working days. You may also send an E-mail for your query on **supporthr.mgvcl@gebm.com**.

### **Documents to be produced as and when required by the Company i.e. after written/online examination or whenever asked from the applicant.**

#### Attested copy of:

1. Online application form along with two recent passport size photographs affixed on the application form.
2. School Leaving Certificate.
3. Mark sheets of final year of Graduation/or last two Semesters of Graduation Certificate issued by College/University.
4. Certificate from the institute/ university mentioning percentage marks obtained in case grading system is in place.
5. Degree Certificate, if available.
6. Caste (SC/ST/SEBC/EWS) Certificate/Disability Certificate (if applicable).
7. Valid Caste (Roster Category) Certificate of Reserved category of Gujarat State only will be considered.
8. In case of SEBC candidates, Valid Non Creamy Layer Certificate issued in Gujarati - પરીશિષ્ટ "ક" / પરીશિષ્ટ -૪ (ગુજરાતી) by the Competent Authority of Gujarat State.
9. In case of EWS category candidates, valid certificate as per resolution No. EWS/122019/45903/A dtd. 23.01.2019 and dt. 25.01.2019 prescribed format (in English : Annexure - KH" or in Gujarati - પરીશિષ્ટ - "ગ" in issued by the Competent Authority of Gujarat State.
10. In case of Physically Handicapped Candidates, Valid Certificate of Civil Surgeon required. (showing % of Disability).
11. In case of Ex. Armed force Personnel, necessary certificate should be attached.
12. In case of Dependent of Retired Employee, Relieving Order or Certificate issued to the employee should be attached.

13. In case of Widow Applicant, copy of death certificate of the deceased husband should be attached.
14. NOC from present employer, If applicable.
15. Relieving Letter, if applicable.
16. Domicile certificate, if applicable.
17. Online payment receipt.
18. Identification Proof (Voter ID/ Pan Card/Aadhar Card/Driving License etc).
19. Residential Address Proof (Electricity Bill/Telephone Bill/Ration Card, etc).

**Note:** Whenever documents are called from the candidates, submission is to be made by the candidates within stipulated time, failing which, his/her candidature shall be cancelled for the post.

**General Manager (HR)**

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# Normalization

- 1. Purpose:** If test is conducted in batches with different set of questions, there is possibility that the difficulty level may differ and in such an event to have scores of both batches comparable, process Normalization is adopted.
- 2. Process:** Mean and Standard Deviation is ascertained for the Base as well as Targeted Batch. Formula is applied using these figures to the Scores of Targeted Batch and Normalized score is obtained.

The base factors for the calculation are:

- A) Proportion of Deviation
- B) Difference between Target Value and Average Value
- C) Average Value

and the formula used to get Normalized Score is  $A \times B + C$ .

The elements comprising the above factors are modified to achieve precise results based on of data (Scores of candidates in different Batches) resulting in different methods. These methods are explained in Annexure "A".

- 3. Assumptions / Pre-requisite:** Basic assumption in this process is that scores in both Base Batch and Targeted Batch have Normal Distribution.

The main disadvantage of Normalized scores is that they always assume a normal distribution. But if this assumption is not met, the scores cannot be interpreted as a standard proportion of the distribution from which they were calculated.

**It is said that you need to take at least 30 samples, to be "sure" that you have an exact enough mean and deviation estimates.**

It is interesting to note here that, even if a sample is taken from one batch, the size needs to be adequate enough, and then only it can represent approximate distribution of that batch. (Ref : Central Limit Theorem)

The choice of  $n = 30$  for a boundary between small and large samples is a rule of thumb, only. There is a large number of books that quote (around) this value,

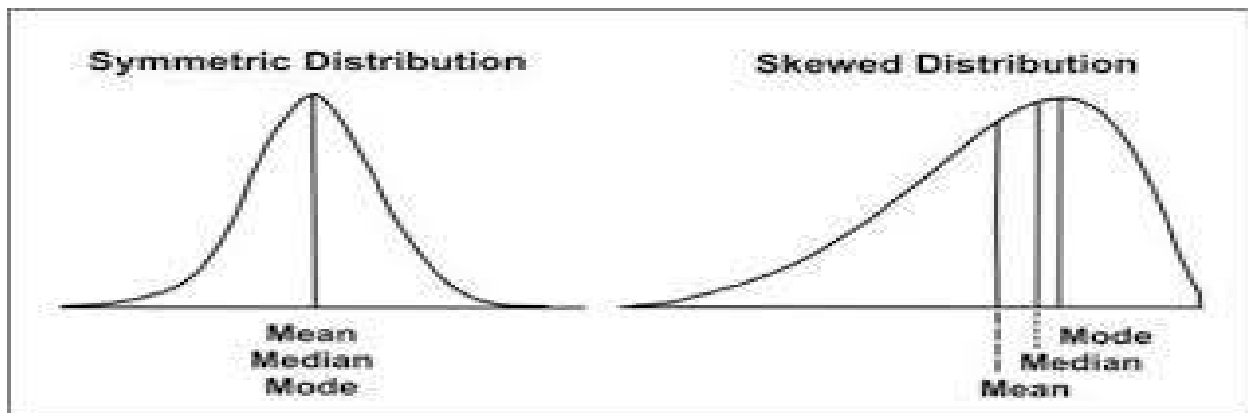


for example, Hogg and Tanis' *Probability and Statistical Inference (7e)* says "greater than 25 or 30".

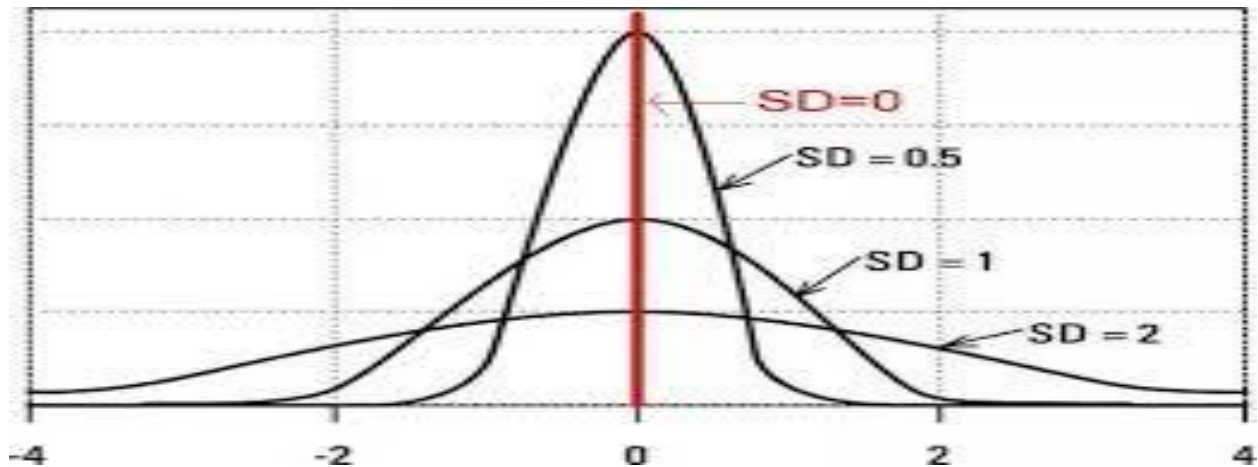
A. Considering above said **Assumptions / Pre-requisite** Normalization can not be done under following circumstance and the score needs to be left as it is for ranking purpose.

- In case the size of Base Batch or Target Batch is less than 30
- In case the test Question Papers are not comparable (i.e. with different subject matter content, different pattern / level)

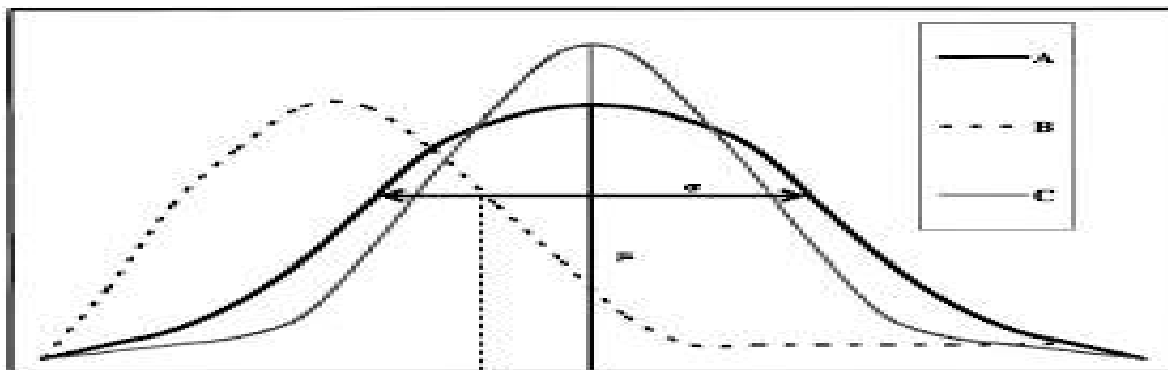
B. The distribution of scores is normal. It may be skewed towards right or left to some extent depending upon the overall performance of candidates.



C. Even if Average Score of 2 Batches is same the distribution of Scores may be different. This will reflect the comparative difficulty level of questions administered for different Batches.



D. In the following diagram the B (data plotted in dotted line) represents more difficult Questions used in the Batch as compared to A and C



E. Annexure “A” enumerates different methods for normalizing scores using different formulas. There is no hard and fast rule for the purpose of selecting the method to be applied, however considering the formulas used, inferences could be drawn as to the circumstances in which they are applied.

**4. Conclusion:** Considering what has been stated above and also various methods mentioned in annexure “A”, In our opinion :

a) Normalization cannot be done under following circumstance and the score needs to be left as it is for ranking purpose.

- In case the size of Base Batch or Target Batch is less than 30.
- In case the test Question Papers are not comparable (i.e. with different subject matter content, different pattern / level)

b) As regards Method B and C :

- There is a factor “Top 0.1% candidates. If the absolute value of the same is expected to be at least 30, then the batch size needs to be

minimum 30,000. In view of this these methods are not recommended where batch size is less than 30,000.

- Where the size of batches does not differ significantly, concept of Base Batch can be adopted and therefore Method B will be suitable.
- In other case Method C will be suitable

c) Method A or D can be used in all other cases however Method A may be preferred where the examination is related with specific domain knowledge whereas Method D would be suitable for General Knowledge. It is desirable that the size of Base Batch and Target Batch is not less than 300.

# Annexure A

## Method A

- Score Normalization using Mean and Standard Deviation of Base / Standard and Target Batch

$$X_n = (S_2/S_1) * (X - X_{av}) + Y_{av}$$

Where:

Suffix 1 and suffix 2 represent two sets of marks.

S represent standard deviation.

X and  $X_{av}$  represent raw score and average score for set 1.

Y and  $Y_{av}$  represent raw score and average score for set 2.

And  $X_n$  = Normalized score.

Supposing set 1 is to be scaled against set 2 (which is declared as standard)

In this method there are following 3 factors:

- A) Ratio of SD of Base / Standard Batch to SD of Targeted Batch
- B) Difference of Score of Candidates and Average Score of the Target Batch
- C) Average Score of Base / Standard Batch

$$\text{Normalized Score} = A \times B + C$$

Batch with maximum average with minimum 70% of the overall average attendance is considered as the Base / Standard Batch.

## Method B

$$\hat{M}_{ij} = \frac{\bar{M}_t^g - M_q^g}{\bar{M}_{ti} - M_{iq}} x (M_{ij} - M_{iq}) + M_q^{gm}$$

Where,

$\hat{M}_{ij}$  = Normalized marks of  $j^{\text{th}}$  candidate in  $i^{\text{th}}$  shift (up to 5 decimal places)

$\bar{M}_t^g$  = Average marks of top 0.1% candidates considering all shifts

$M_q^g$  = Sum of mean and Standard Deviation marks of candidates in the exam considering all batches

$\bar{M}_{ti}$  = Average marks of top 0.1% candidates in  $i^{\text{th}}$  shift

$M_{iq}$  = Sum of mean and Standard Deviation of  $i^{\text{th}}$  shift

$M_{ij}$  = Raw / Scaled Marks obtained by  $j^{\text{th}}$  candidate in  $i^{\text{th}}$  shift

$M_q^{gm}$  = Sum of mean marks of candidates (in the shift having max. mean) and Standard Deviation of candidates considering all batches

1. In this case additional elements like Average and Standard Deviation of top 0.1% of overall candidates as well as that of targeted batch are brought in the picture.
2. By using Proportion of difference ( Average score of Top 0.1% candidates minus Average+ SD of all candidates' score) for all shifts to targeted shift the ***purpose to normalize the data more precisely is achieved if there is significant variation in marks scored by top 0.1% candidates in different batches.***
3. Concept of Base / Standard and Target Batch is maintained.
4. Since ratio as indicated in 2 is used as one of the factor for the purpose of normalization of candidate's score, instead of difference between score of the candidate and average score of the Base Batch, difference between score of the candidate and average + SD of score of the Base Batch is taken.
5. Having taken proportionate difference as stated above Average + SD of score for all batches is added to it. Here SD is also added because while calculating proportionate difference SD is also deducted from candidate's score.

## Method C

$$\hat{M}_{ij} = \frac{\bar{M}_t^g - M_q^g}{\bar{M}_{ti} - M_{iq}} x(M_{ij} - M_{iq}) + M_q^g$$

Where,

$\hat{M}_{ij}$  = Normalized marks of  $j^{\text{th}}$  candidate in  $i^{\text{th}}$  shift (up to 5 decimal places)

$\bar{M}_t^g$  = Average marks of top 0.1% candidates considering all shifts

$M_q^g$  = Sum of mean and Standard Deviation marks of candidates in the exam considering all batches

$\bar{M}_{ti}$  = Average marks of top 0.1% candidates in  $i^{\text{th}}$  shift

$M_{iq}$  = Sum of mean and Standard Deviation of  $i^{\text{th}}$  shift

$M_{ij}$  = Raw / Scaled Marks obtained by  $j^{\text{th}}$  candidate in  $i^{\text{th}}$  shift

This method is similar to Method B except change in “Factor C” i.e. instead of “Sum of mean marks of candidates (in the shift having max. mean) and Standard Deviation of candidates considering all batches” , “Sum of mean and Standard Deviation marks of candidates in the exam considering all batches” is considered.

Therefore, this method is appropriate where all Batches are equally important or unique and no Batch can be taken as a Base / Standard Batch.

## Method D - Using Equi-Percentile

$$\text{Percentile Rank of Candidate} = \frac{\text{Total Candidates in Shift} - \text{Rank of the candidate in that shift}}{(\text{Total candidates in the shift} - 1)} \times 100$$

In this method Batch-wise Percentile Rank of Candidate is calculated as per the above formula and thereafter All data is merged for further process of short-listing.

Once the percentiles are calculated, the batch having the most number of candidates appeared is considered as Base Batch.

If Equated Score is required to be displayed, instead of Percentile Rank, before merging data of all batches the same is calculated using the following formula. However this does change Merit Order as prepared based on Percentile Rank of Candidate.

$$Y = Y1 + \frac{Y2 - Y1}{(X2 - X1)} \times (X - X1)$$

Where:

**Y** = Equated Score rounded up to 2 decimal places

**Y1** = Marks corresponding to immediate lower percentile form Batch II

**Y2** = Marks corresponding to immediate upper percentile form Batch II

**X1** = Immediate lower percentile form Batch II

**X2** = Immediate upper percentile form Batch II

**X** = Percentile of the Candidate of the respective Batch

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