



**India Trade Promotion Organisation
(A Government of India Enterprise)
Pragati Maidan, New Delhi-110 001**

ITPO INVITES ONLINE APPLICATIONS FROM THE ELIGIBLE CANDIDATES FOR THE POST OF DEPUTY MANAGERS AND SENIOR ASSISTANT (ELECTRICAL)

Post Code	Name of Posts	Minimum Qualification	Experience	Number of Vacancies						
				Total	GEN	OBC	SC	ST	Post identified suitable for PWD	Post reserved for PWD
1	Deputy Manager (General Cadre)	<p>Essential: Bachelor's Degree from any recognized University/Institute with 55% marks.</p> <p>Or CA/CMA/Company Secretary from the respective Institution</p> <p>Desirable: (i) Two years Post Graduate Diploma In Management/ Business Administration. (ii) Special qualification/ experience in Management/ Marketing, Personnel Management, Statistics, Computer Science, International Trade, Finance or Mass Communication. (iii) Knowledge of relevant Computer Applications. (iv) Knowledge of Foreign Language other than English.</p> <p>For Departmental Candidates- Essential: Bachelor's Degree</p>	<p>Desirable: 2 years supervisory experience</p>	9	5	2	1	1	HH (Inclusive)	HH (Inclusive)
2	Deputy Manager (Law)	<p>Essential: LL.B./B.G.L. Degree from a recognized University.</p> <p>Desirable: 1. Knowledge of foreign languages, other than English. 2. Knowledge of Computer applications</p>	<p>Essential: 3 years experience of practice as Advocate or in judiciary of a State Government or in the Legal Department of the Central of State Government or in a Public Sector Undertaking.</p>	1	1	0	0	0	--	--
3	Deputy Manager (Finance & Accounts)	<p>Essential: (i) Associate membership of the Institute of Chartered Accountants of India/Institute of Cost and Works Accountants of India; or</p>	<p>Essential: 2 years relevant experience after passing above examination in Govt./PSU/reputed private sector organizations.</p>	2	0	0	1	1	--	--

		(ii) MBA (Finance) Major Desirable: Knowledge of Computer Applications in accounting practices.								
4	Deputy Manager (Electrical)	Essential: Bachelor's Degree in Electrical Engineering from a recognized University/Institution with 55% marks. Desirable: 1. Knowledge of relevant Computer Applications. 2. Knowledge of foreign languages, other than English.	Desirable: 2 years experience in Electrical Engineering in Government/Public Sector/reputed Private Sector organizations, preferably in the field of exhibitions.	1	1	0	0	0	--	--
5	Deputy Manager (Civil)	Essential: Bachelor's Degree in Civil Engineering from a recognized University/Institution with 55% marks. Desirable: 1. Knowledge of relevant Computer Applications. 2. Knowledge of foreign languages, other than English.	Desirable: 2 years experience in Civil engineering in Government/Public Sector/ reputed Private Sector organizations, preferably in the field of exhibitions.	1	1	0	0	0	--	--
6	Deputy Manager (Design)	Essential: (i) Bachelor's Degree in Commercial/Fine Arts from a recognized University/Institution with 55% marks. (ii) Knowledge of Computer Applications in the field of Design, Display & Graphics etc. Desirable: 1. Specialized Training in India or abroad in design/display and graphics. 2. Knowledge of foreign languages, other than English	Desirable: 2 years experience in design/display and graphics in Government/ Public Sector/ reputed Private Sector organizations, preferably in the field of exhibitions.	1	1	0	0	0	--	--
7	Deputy Manager (Security)	Essential: Bachelor's Degree in Arts/Science/Commerce with 55% marks from a recognized University. Desirable: 1. Knowledge of	Essential: 4 years experience in Armed Forces/CRPF/CISF/Police/BSF/ Other paramilitary Organisations or Security Establishments in Government/ Public	1	1	0	0	0	--	--

		relevant Computer Applications. 2. Experience in the field of exhibitions/event management. 3. Knowledge of foreign languages, other than English.	Sector/ reputed Private Sector organizations. Minimum height: For Male : 165 cms and For Female: 157 cms. (A certificate from Medical Officer may be attached).							
8	Senior Assistant (Electrical)	Essential: Degree/Diploma in Electrical Engineering from a recognized University/Institution. Desirable: 1. Knowledge of foreign languages, other than English.	Essential for diploma holders: One year experience of construction and maintenance of permanent structures in Electrical Engineering in Govt./Public Sector/reputed Private Sector organization, preferably in the field of exhibitions.	4	3	1	-	-	--	-

The number of vacancies may increase or decrease at sole discretion of ITPO.
Abbreviations used NCL=Non-Creamy Layer, HH= Hearing Impaired (partially Deaf).

IMPORTANT DATES	DATE
Opening date for On-line Application (step-I)	19.01.2019
Last date and time of closing of Registration (Step-I) and submission of On-line application (Step-II)	18.02.2019 (upto 11:59 PM)
Last date and time for payment of Application fee (if applicable) through Debit Card/Credit Card/Net Banking through SB collect system of State Bank of India (SBI) (Step-III)	20.02.2019 (upto 11.45 PM)

PAY SCALE (IDA):- DEPUTY MANAGER : ₹ 40000-140000
SENIOR ASSISTANT (ELECTRICAL) : ₹ 29000-110000

EMOLUMENTS:- In addition to Basic pay, Industrial Dearness allowance, perks@ 31% of Basic pay, HRA and other benefits which includes CPF, Gratuity, Medical benefits etc are admissible as per ITPO rules.

Exam Cities:-

1. Delhi/NCR 2. Mumbai 3.Kolkata 4. Chennai

SPECIAL CONDITIONS FOR PERSON WITH DISABILITIES (PWD):

1. Only such persons, who have suffered not less than 40% relevant disability, are eligible to be considered as per the Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act, 1995.
2. Persons with Disabilities are required to furnish Medical Certificate issued by the Competent Authority in proof of their disability.
3. Guidelines for conducting written examination for persons with benchmark disabilities issued by Government of India from time to time will be taken into consideration as and when required.

IMPORTANT INSTRUCTIONS:

- I. Only Indian nationals fulfilling eligibility criteria can apply for the above posts.
- II. Age and experience will be reckoned as on the closing date of receipt of applications. Experience will be reckoned on post-qualification basis, whenever necessary.
- III. Vacancies reserved for OBC, category are available to OBC candidates belonging to Non-Creamy Layer(NCL) only as per the Govt. of India guidelines.
- IV. OBC Certificate: - The candidates applying against vacancies reserved for OBCs should note that they have to produce a valid caste certificate at the time of documents verification/ interview in support of their belonging to OBC community in the Central list of OBC, issued by the Government of India, in the prescribed format for this purpose so as to prove that they do not belong to "Creamy Layer" of the OBCs. A declaration shall also be submitted by the candidate before his/her appointment that he/ she does not belong to the Creamy Layer of OBC. OBC (Non Creamy Layer Certificate) for admission to educational purposes will not be considered.
- V. SC / ST Certificate: - Candidates belonging to SC/ ST category shall have to submit the Caste certificate issued by the Competent Authority at the time of documents verification/interview.
- VI. The SC / ST/ OBC / Disability certificate issued by the Competent Authority should either be in Hindi or English. Any Variation in the caste name will not be accepted.
- VII. The essential qualifications acquired through open distance learning qualifications shall be considered.
- VIII. Where a specialization is required in the qualifying degree in the essential qualification, candidate is required to submit a certificate from the University/Institution clearly specifying the specialization in the qualifying degree.
- IX. In the case of Integrated Master's Degree in Engineering, candidate will have to produce a certificate at the time of documents verification in support of possession of bachelor's degree and statement of marks in Engineering issued by the University/ Institution.
- X. Candidate must specifically indicate the percentage of marks obtained [calculated to the nearest two decimals] in the relevant column of the application. Where percentage of marks is not awarded by the University but only CGPA I OGPA I DGPA / CPI etc. is awarded, the same shall be converted into percentage in terms of conversion norms of University in this regard. Candidate will have to produce the equivalence certificate / document issued by the University / Institution evidencing equivalent percentage of marks, when called for documents verification.
- XI. Rounding off the percentage of marks will not be acceptable under any circumstances for consideration for appointment i.e. 54.99% will be treated as less than 55%.
- XII. The date of declaration of result / issuance of Marks Sheet shall be deemed to be date of acquiring the qualification and there shall be no relaxation on this account.

AGE LIMIT (As on closing date): -

For the Post code no. 1, 2,4,5,6 and 7	:	Maximum age 30 years
For the Post code no. 3)	:	Maximum age 32 years
For the post code no.8)	:	Maximum age 28 years

The Cut - off date for calculating the age and experience is 31.01.2019

RELAXATION IN AGE

Note: There will be no age bar for the ITPO's serving employees applying for these posts.

Relaxation in upper age limit for SCs/STs/OBCs/Physically Handicapped/Ex-Serviceman will be as per Government rules.

SELECTION PROCESS

- i. Before applying for the posts, the candidate should ensure that he/she fulfills the eligibility and other norms mentioned in the Advertisement. Furnishing of wrong/false information will lead to disqualification and ITPO will not be responsible for any consequence of furnishing such wrong / false information.
- ii. Screening and eligibility will be based on the details provided by the Candidate.
- iii. The candidates found provisionally eligible shall be called for On-line examination and Admit Cards shall be issued to them accordingly. The admit card for on-line examination will be sent to the eligible candidates on their registered E-mail IDs only.
- iv. Candidates will be shortlisted on the basis of their performance in On-line examination and they will be called for Documents Verification / Interview / Physical measurement, if any.

- v. Roll numbers of the candidates, shortlisted for Documents verification / Interview / Physical measurement, if any, as applicable for the post will be declared on ITPO website only. The call letter will be sent to the shortlisted candidates on their registered E-mail IDs only.
- vi. Candidates already working in Central Government/State Government / Autonomous Body / Public Sector Undertaking are required to produce "NO OBJECTION CERTIFICATE" from the present employer at the time of documents verification / interview, failing which his / her candidature will not be considered. Other claims such as undertaking to resign in the event of selection, acknowledged copy of applied NOC/Resignation Letter, Experience Certificate etc, shall not be considered in place of NOC.
- vii. During Documents verification / Interview, the candidate will have to produce Original Certificates along with a proof of identity and one set of self-attested photocopies of the Certificates. If the identity of the candidate is in doubt or he / she is not able to produce the requisite documents or there is mismatch of information in the documents, his/her candidature will be rejected. No additional time will be given for producing original documents.
- viii. The provisional selection of the candidates will be as per the merit list, prepared on the basis of their performance in On-line examination / Interview / Physical measurement as applicable for the post, subject to meeting all other eligibility criteria prescribed for the post.
- ix. Roll numbers of the candidates, provisionally selected for appointment to the post, will be declared on ITPO website.
- x. Selected candidates will be liable to be posted anywhere in India.

BACKGROUND CHECK:

Selection of candidates shall be provisional, subject to verification of documents relating to eligibility criteria, character and antecedents and other documents submitted by the candidate and is also subject to his/her meeting the requisite medical standards for the post and other requirements applicable for appointments under the rules of ITPO.

HOW TO APPLY: -

Candidates are advised to read the following instructions carefully before applying On-line and also all the instructions given on main instruction page of the On-line application:

- I. Candidates are required to apply On-line through the link available on www.indiatradefair.com under tab "CAREERS". No other means/mode of submission of applications will be accepted under any circumstances.
- II. After submitting the online application, the candidates are required to take print out of the finally submitted online application and retain the same with them.
- III. Candidates are not required to submit to ITPO either by post or by hand the print outs of their online applications or any other documents. They will be required to submit printout of online application along with documents in support of their eligibility etc. at the time of interview in case they are shortlisted for interview.
- IV. Candidates are advised to submit only single online application. However, if somehow, he/she submits multiple online applications, then he/she must ensure that online application with the higher "Registration Number" is complete in all respects including fee. The applicants, who submit multiple online application, should note that only the online application with higher "Registration Number" shall be entertained by the ITPO and fee paid against one "Registration Number" shall not be adjusted against any other "Registration Number".
- V. Application once submitted cannot be modified; hence utmost care should be taken to furnish the correct details before submitting the online application.
- VI. Candidates are advised in their own interest to apply online much before the closing date and not wait till the last date to avoid the possibility of congestion in server to log on etc.
- VII. Candidates should have a valid personal E-mail ID. It should be kept active during the currency of this recruitment process. The candidates are requested to check regularly their E-mail / ITPO's website for any communication from ITPO.
- VIII. Before registering / submitting applications on the website, the candidate must possess the following:
 - a) Valid E-mail id: The E-mail id entered in the online application form should remain active until the recruitment process is completed. No change in E-mail id will be allowed once registered. All correspondence regarding this recruitment shall be made on the registered E-mail id including Admit card for On-line examination and Call Letter for Documents Verification / Interview, if shortlisted.

- b) Scanned copy of latest passport size colored photograph (not more than 03 months old) and scanned signature in digital format (as per dimensions in below mentioned paragraph) for uploading in the application.
- c) All relevant documents/details relating to eligibility criteria viz Educational Qualification, Caste Certificate [SC/ST/OBC(NCL)]; Experience Certificate, Disability Certificate, and Discharge Certificate in case of Ex-Service Men etc.
- d) A facility to take print out of the Registration Slip.
- e) Signature in CAPITAL LETTERS will not be accepted.
- f) Keep the necessary details/documents ready to make Online Payment of the requisite application fee/intimation charges.

INSTRUCTIONS REGARDING SCANNING OF PHOTOGRAPH, SIGNATURE AND OTHER DOCUMENTS:

Scanned image of his / her photograph and signature, should be as per the specifications given below:

- (i) **Photograph image:**
 - Photograph must be a recent passport size colour picture (not more than 3 months old).
 - Photograph in cap / hat / dark glasses will not be acceptable. Religious headwear is allowed but it must not cover the face.
 - Size of scanned photograph file should be between 20kb-50kb and Dimensions 200x230 pixels, only.

- (i) **Signature image:**
 - The applicant has to sign on white paper with Black ink pen.
 - Size of signature file should be between 10kb-20kb dimensions 140x60pixels (preferred).

- (ii) **D.O.B (Matriculation) Certificate**

- (iii) **Essential Qualification Certificate**

- (iv) **Caste certificate (if applicable)**

- (v) **PWD certificate (if applicable)**

- (vi) **Ex Servicemen certificate (if applicable)**

Note:- Maximum Size of the file should not exceed 1MB (For iii iv,v,vi,vii)

APPLICATION FEE AND MODE OF REMITTANCE:-

- a. Application fees to be submitted by the candidates for all Deputy Manager posts is Rs. 1000 for General and OBC candidate and application fee for Sr. Assistant is RS. 700 to be submitted by General and OBC candidates **through ONLINE MODE (State Bank Collect) ONLY** . However, the SC / ST / PWD/ Ex Serviceman candidates are exempted from payment of Fee. Fee submitted by any other mode will not be accepted.
- b. The application form is integrated with the payment gateway and the payment process can be completed by following the instructions.
- c. Method for Submission of Application Fees — Candidates need to re-log in and click the link / tab "make payment" which will become active only after 24 hours of submission of online Application. The candidates are required to deposit the requisite examination fees online through Internet Banking / Debit / Credit Card only. The unique Transaction Reference Number starting with "DU" is generated by the system on successful payment through SBI collect service. It is to be noted and retained for future reference.

STEPS FOR APPLYING:

STEP-I (Sign Up/Registration):

- a) Candidates can apply online by visiting the ITPO website www.indiatradefair.com > Careers.
- b) Candidates will get the instructions page and they will have to accept the terms & conditions by clicking 'I Agree'
- c) Checkbox given below and pressing the 'Start' button.
- d) Applicants are needs to sign up first with their valid **E-mail ID** and **Mobile No.** with them while signing up.
- e) The One-time **Password** and **login details** will be sent to the **E-mail ID & Mobile No.** provided, so candidates are advised to verify the correctness of the **Email ID & Mobile No.** before proceeding.

STEP- II: (Submission of Application)

- (a) Candidates can apply online by revisiting the Online Application through the ITPO website www.indiatradefair.com > Careers.
- (b) The candidate should now login and fill up all the information asked in the on-line form about himself/herself correctly.
- (c) The candidates should now fill up all the desired information in the online form about himself/herself correctly. The candidate can make necessary corrections, (if any) before submission of application however
- (d) **Candidates are not allowed to change the Email-ID, Mobile Number, Candidate Name, Post.**
- (e) On successful submission of on-line application, candidates are advised not to attempt for re-registration for the same post. In case of multiple registrations for the same post, the one with the highest registration number will be considered as the final application. Candidate is required to download the online form generated by the System with unique registration number, which may be retained for future reference.

STEP- III: Submission of Application Fees

On completion of Step-II, after minimum 24 to 36 hours candidate needs Login and Click on **“Make Payment”** link and deposit the requisite examination fee through On-line mode only.

METHOD FOR SUBMISSION OF APPLICATION FEES (Non-refundable)

Candidate needs to re-login and click the link/tab “Make Payment” active after 24 to 36 hours of submission of the application. The candidates are required to click on “Make Payment” after 24 to 36 hrs of submission of online application and deposit the requisite examination fee online through Internet Banking /Debit/Credit Card only from State Bank Collect system of State Bank of India (SBI) website. The journal number or the Transaction number given by the Bank is to be retained for future reference.

Guidelines for deposit of Examination Fee through State Bank Collect System (SBI) (Link will active minimum after 24 to 36 hrs of submission of online Application (Step-II)

- Click on **“Make Payment”** tab. The candidate will be navigated to State Bank Collect (State Bank India) page.
- Select disclaimer check box and proceed.
- On next screen select Category **‘ITPO APPLICATION FEES’**.
- The candidate will be navigated to State Bank Collect (State Bank India) page of ITPO displaying their logo.
 - a. Please enter your ITPO application sequence number,
- On the next screen, (following Data will appear automatically from database)
 - a) Application Sequence Number,
 - b) Name of applicant,
 - c) Post Applied
 - d) Category
 - e) Exam. Fees
- Verify the details and click on 'Confirm'.
- Now you will be taken to payment gateway
- Select appropriate **'Mode of Payment'** i.e. Internet Banking/Credit Card/Debit Card
- Check the charges/commission applicable for selected 'Mode of Payment'
- Pay 'online' using Internet Banking/Credit Card/Debit Card and print the e-receipt for your record.

ACTION AGAINST MISCONDUCT:

- I. Candidates are advised to furnish correct information and should not provide any documents/information that are false, tampered, fabricated or should not suppress any material information while filling up the "on-line" application.
- II. At any stage of recruitment or later, if a candidate is found guilty of any misconduct such as:
 - a) Impersonating or procuring impersonation by any person; or
 - b) Resorting to any irregular means in connection with his / her candidature during selection process; or
 - c) Canvassing in any form/ Using undue influence for his/her candidature by any means: or
 - d) Submitting of false certificates /documents / information or suppressing any information at any stage; or
 - e) Giving wrong information regarding his / her category (SC / ST / OBC (NCL) / PWD / Ex-Servicemen) while appearing in the examination or thereafter; his/her candidature will be summarily rejected and he/she will be terminated from service, apart from initiating any other action or taking legal recourse as deemed fit.

GENERAL INSTRUCTIONS:

- a) Before submitting the application, the candidate must ensure that he/she fulfills all the eligibility and other norms mentioned in the Advertisement. He/She may cross-check the information, such as Date of Birth, Category, Sub-Category [SC / ST / OBC (NCL) / PWD / Ex-Serviceman] and email Id etc. furnished in the application form before finally submitting the same as no correction would be possible later.
- b) Candidates are advised to apply on-line much before the closing date of application mentioned in this Advertisement and not to wait till the last date to avoid the possibility of disconnection / inability /failure to log on the ITPO's website on account of heavy load on internet / website jam / disconnection.
- c) ITPO will not be responsible for the candidates not being able to submit their applications within the last date on account of the aforesaid reasons or for any other reason beyond the control of the ITPO.
- d) The place of examination centers can be increased or decreased, depending upon the number of candidates and in that case, candidates will be asked to appear at any other place of examination centers other than specified by them.
- e) The decision of ITPO Management regarding the eligibility criteria, acceptance or rejection of applications, mode of selection to the post etc. shall be final and binding on all candidates. Mere fulfilling of *the* minimum qualification, experience and job requirement will not vest any right on candidates for being called for documents verification /interview. No correspondence will be entertained from the candidates found ineligible and not called for documents verification / interview.
- f) ITPO reserves the right to modify / alter / restrict / enlarge / cancel the recruitment process, if need so arises, without issuing any further notice or assigning any reasons what so ever. The decision of the ITPO Management will be final and no appeal will be entertained in this regard.
- g) All correspondence with candidates shall be done through e-mail and all general information shall be provided through ITPO website. Responsibility of receiving, downloading and printing of call letter for documents verification / offer of appointment / any other information shall be of the candidate. ITPO will not be responsible for any loss of email sent, due to invalid / wrong email ID provided by the candidate or for delay / non receipt of information, if a candidate fails to access his/her mail/website in time.
- h) Candidature of the registered candidates is liable to be rejected at any stage of recruitment process or after recruitment/joining, in case any information provided by the candidate is found false or is not found in conformity with the eligibility criteria mentioned in this advertisement.
- i) ITPO will not bear any liability on account of service bond / salary / leave salary / pension contribution etc., if any, of previous employment of any candidate already working in Central Government / State Government / Autonomous Body / Public Sector Undertaking.
- j) No TA / DA will be paid for appearing in the On-line examination.
- k) Court of jurisdiction for any dispute will be at Delhi.
- l) All future communications/information regarding this recruitment will be made available on ITPO website. Candidates are advised to check their Email account and visit ITPO website www.indiatradefair.com regularly for further updates.

- m) In case of any dispute in the advertisement, English version of the Employment Notice will be treated as valid.
- n) In case, it is found at any stage that a candidate does not fulfill the eligibility criteria and/or that he/she has furnished any incorrect/false information/certificate/ documents or has suppressed any material information, his/her candidature will stand cancelled. If any of these shortcomings are detected even after appointment, his/her services are liable to be terminated.

SCHEME OF EXAMINATION

The selection for various posts of Deputy Managers will be made on the basis of Written Examination followed by interview of eligible and successful candidates.

For the posts of Sr. Assistant , there is no interview and selection will be based only on qualifying the written examination.

The Examination will be conducted in two parts/stages as indicated below:

01. PART I - WRITTEN EXAMINATION:-

- a. The Written Examination (Computer Based) shall be Objective Type Multiple Choice (to assess professional knowledge) of total 120 Marks.
- b. Duration of exams will be of 02:00 Hrs.

IMPORTANT NOTE:

- 1. The detailed topic wise Syllabus for all posts is given at Annexure - A.
- 2. Minimum qualifying marks in written examination for General Candidates is 60%, OBC Candidates 50% and 40% for SC/ST/PWDs/Ex.SM.

02. Part II- INTERVIEW:-

The candidates qualifying in Written Examination will be considered for shortlisting for interview for all posts of Deputy Managers on the basis of their performance in Written Examination.

The final selection of candidates will be made based on performance of candidates in Paper - I (120 Marks) and Interview (20 Marks) (For Deputy Managers posts only) as per the rules of Government of India.

Annexure – A

DETAILED SYLLABUS OF WRITTEN EXAMINATION FOR VARIOUS POTS OF DEPUTY MANAGERS AND SR. ASSISTANT

1. For post 01- Deputy Manager (General Cadre):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Note: 30 Questions for each section, 1 mark per question.	<ul style="list-style-type: none"> The questions will be set Bilingual (i.e. English and Hindi language) The maximum marks will be 120. There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION –I

<u>Part –A :-</u>	<u>Part – B :-</u>	<u>Part – C :- QA</u>	<u>PART –D GK (Indian & Global Environment Section)</u>
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

2. For post 02 - Deputy Manager (Law):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	Section-I (40 Questions,1 mark each) i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Section -II (80 Questions ,1 mark each) Subject based questions.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION -I

<u>Part -A :-</u>	<u>Part – B :-</u>	<u>Part – C :- QA</u>	<u>PART –D GK (Indian & Global Environment Section)</u>
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

SECTION-II

1. Indian Penal code
2. Code of Civil procedure
3. Code of Criminal Procedure
4. Indian Evidence Act
5. Constitution of India
6. Contract Act
7. Limitation Act
8. Specific Relief Act
9. Registration Act
10. The Negotiable Instruments Act
11. Labor Laws.
12. Law Suits, pleadings and practices.
13. Environment Law
14. Trade Mark, Copy Right, IPR, Patent Act.
15. Society Registration Act.
16. Cyber Laws
17. Competition Act.
18. Indian information Act.
19. Public Premises (EQU) Act.

3. For post 03 - Deputy Manager (Finance & Accounts):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	<u>Section-I (40 Questions,1mark each)</u> i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge <u>Section -II (80 Questions1 mark each)</u> Subject based questions.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION -I

Part –A :-	Part – B :-	Part – C :- QA	PART –D GK (Indian & Global Environment Section)
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding- Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

SECTION-II

1. Financial Accounting /Corporate Accounting
2. Business Laws/Corporate Laws with emphasis on Companies Act2013 including IND AS
3. Business Organization and Management
4. Income Tax Law and Practice/Corporate Tax Planning/Indirect Taxes including GST
5. Cost Accounting
6. Financial Management with emphasis on evaluation of Projects, fund raising options, working capital management, risk mitigation, strategies in general
7. Auditing with special emphasis on accounting standards
8. E-commerce
9. Financial Markets, Institutions and financial services
10. Fundamentals of investment
 - Preparation of salary and staff related payment
 - Processing the proposal of procurement (Capital/Revenue Nature)
Opening of LC/Payment of Engineering/works bills
 - Cos. By CPSE
 - Working knowledge of Tendering procedures
 - Business Communication
 - Knowledge of SAP

4. For post 04 - Deputy Manager (Electrical):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	Section-I (40 Questions1 mark each) i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Section -II (80 Questions1 mark each) Subject based questions.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION -I			
<u>Part –A :- VARC:-</u>	<u>Part – B :- DILR</u>	<u>Part – C :- QA</u>	<u>PART –D GK (Indian & Global Environment Section)</u>
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

Section – II

1. **Circuit Theory:** Circuit components; network graphs; KCL, KVL; circuit analysis methods; nodal analysis, mesh analysis; basic network theorems and applications; transient analysis; RL, RC and RLC circuits; sinusoidal steady state analysis; resonant circuits; coupled circuits; balanced 3-phase circuits; Two-port networks.
2. **Signals and systems:** Representation of continuous and discrete time signals; shifting and scaling operation; linear time invariant and causal systems; Fourier Laplace and Z transform.
3. **Instrumentation:** Insulation megger, earth megger, Kelvin's Double bridge, Quadrant electrometer, Rotating substandard, TODmeter.
4. **Electrical Machines:-**
 - a. **Transformers:** Constructional details – Principle of operation – vector diagrams on no load and load-regulation and efficiency – equivalent circuits and tests for the determination of parameters of equivalent circuits – types of three phase transformers and their applications – Scott connection of transformers.
 - b. **3-Phase Induction Motors:** Principle of operation – Cage and Slip ring motors – torque slip characteristics – methods of speed control.
 - c. **3-Phase Alternators:** Principle of operation and constructional details – types of Alternators – synchronous impedance – voltage regulation – short circuit ratio and its importance – phasor diagrams of round rotor and salient pole machines – synchronization – behavior of an alternator connected to infinite bus – effect of varying excitation current and mechanical torque – power angle curves – control of active and reactive powers.
 - d. **3-Phase Synchronous Motors:** Principle of operation – torque developed and methods of starting – V and Inverted V curves – effects of variations of excitation – synchronous condensers.
 - e. **Single phase Induction Motors** – Types of single phase motors – Types of Single phase induction motors – characteristics and methods of starting – shaded pole induction motor.
5. **Transmission & Distribution:** Line constants – Inductance and Capacitance calculations – Representation of over head Lines – Short, Medium and Long lines – ABCD constants – Mechanical Design – Seg. Tension Calculations, Tuned Power Lines.
 - a. **Over Head Line Insulators:** Types of Insulators – Potential distributions over a string of suspensions insulators – string efficiency – Methods of improving string efficiency.
 - b. **Cable:** Insulation of cables – Grading of cables – Capacitance Measurement in cables – Testing of Cables – Power frequency withstand tests.
 - c. **Fault Calculations:** Balanced Fault calculations on systems – Symmetrical components – Types of faults – Analysis of unbalanced faults.
 - d. **Protection:** Characteristic of Relays – Over current, directional and distance protection of lines.
Protection of Alternators against stator faults, rotor faults, loss of excitation, unbalanced loading, overloading, failure of prime-mover. Over speeding and over voltage. Protection of transformers against winding faults, overloads and external short circuits.
 - e. **Circuit Breakers:** Air-blast, oil, minimum oil, vacuum – sulphur hexafluoride and d.c. circuit breakers – Relative merits and demerits.
6. **Power System Protection:** principles of over current, differential and distance protection, Concept of solid state relays. Circuit breakers. Computer aided protection: Introduction; line bus, generator, transformer protection; numeric relays and application of DSP protection.
7. **Microprocessors and Microcomputers:** PC organization; CPU, instruction set, register set, timing diagram, programming, interrupts, memory interfacing, I/O interfacing, programmable peripheral devices.

8. Analog and Digital Electronics: Characteristics of diodes. BJT, MOSFET, amplifiers – biasing, equivalent circuit and frequency response; oscillators and feedback amplifiers; operational amplifiers – characteristics and applications; simple active filters: VCOs and timers; combinational and sequential logic circuits; multiplexer; Schmitt trigger; multivibrators; sample and hold circuits; A/D and D/A converters; 8-bit microprocessor basics, architecture, programming and interfacing.

9. Power Electronics and Drives: Semiconductor power diodes, transistors thyristors, triacs, GTOs, MOSFETs and IGBTs – static characteristics and principles of operation; triggering circuits; phase control rectifiers; bridge converters – fully controlled and half controlled; principles of choppers and inverters; basic concepts of adjustable speed dc and ac drives.

10. Fiber Optic Systems Multiplexing: Time division multiplexing, frequency division multiplexing, optical properties of materials, refractive index absorption and emission of light, optical fibers lasers and optoelectronics materials, fiber optic lines.

11. Digital Communication: Pulse code modulation (PCM), differential pulse code modulation (DPCM), delta modulation (DM), Digital modulation and demodulation schemes: amplitude, phase and frequency keying schemes (ASK, PSK, FSK). Error control coding: error detection and correction, linear block codes, convolution codes. Information measure and source coding. Data networks, 7-layer architecture.

12. HVAC

Fundamentals – Air properties, psychrometry, basic processes for HVAC system.

13. PUMPS

- a. **PUMPS:** Water lifting devices, classification of pumps, centrifugal pump and its characteristics, specific speed, NPSH and cavitation, selection of pumps.
- b. **HYDRAULICS AND FLUID MECHANICS:** Definition and properties of fluids. Units of measurement, kinematics of fluid flow, Bernoulli's equation and Euler's equation of motion. Dimensional analysis and similitude. Laminar and turbulent flow. General equation for head loss in pipes; open channel flow, hydraulic jump; Measurement of discharge in pipes and open channels.

14. Renewable energy sources.

(ADDITIONAL TOPICS) To be included in Part B

1. Sub-station

- (i) HT Panels
 - HT overhead lines
 - HT cables
- (ii) Transformers
 - LT panels, LT cables
 - Bus Duct, Capacitor panels
 - Cable Trench, Cable Tray

2. DG Sets/UPS

- AMF Panel
- Synchronization
- SCADA

3. HVAC

- Heating Plant-(Boilers/ Hot Water Generators)
- Central Air-conditioning – (Chillers-Centrifugal/Screw)
- VRV System, Precision Airconditioning

- Unitary A/c-window/split/cassette/Tower
- AHU, Coolingtower

4. Insulation

- Thermal
- Acoustic

5. Lifts /Escalators

6. BMS/IBMS/EMS

- Building ManagementSystem
- Energy ManagementSystem

7. Energy ConservationMeasurers

8. WaterSupply

- PumpsSets
- STP (Sewage TreatmentPlant)
- WTP (Water Treatment Plant), ROPlant

9. Fire Alarm & Fire FightingSystem

- Fire Alarm &Detection
- Wet Riser
- DownComer
- SprinklerSystem
- Fire SuppressionSystem

10. InternalElectrification

- Wiring
- Conduiting
- Fitting/Fixtures
- Fans

11. ExternalElectrification

- Pole (StreetLight)
- High MastTower

12. Earthing

13. Lighting ProtectionSystem

14. CCTV/PASystem

15. Solar PowerSystem

16. ConveyorBelts.

17. MBC codes and services in buildings

5. For post 05 - Deputy Manager (Civil):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	Section-I (40 Questions, 1 mark each) i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Section -II (80 Questions, 1 mark each) Subject based questions.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION - I			
Part –A :- VARC:-	Part – B :- DILR	Part – C :- QA	PART –D GK (Indian & Global Environment Section)
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

SECTION-II

1. Engineering mechanics, Strength of Materials and Structural Analysis

1.1 Engineering Mechanics:

Units and Dimensions, SI units, Vectors, Concept of Force, Concept of particle and rigid body. Concurrent, Non-Concurrent and parallel forces in a plane, moment of force, free body diagram, conditions of equilibrium, Principle of virtual work, equivalent force system.

1.2 Strength of Materials:

Simple Stress and Strain, Elastic constants, axially loaded compression members, Shear force and bending moment, theory of simple bending, Shear Stress distribution across cross-sections, Beams of uniform strength.

Deflection of beams; Macaulay's methods, Mohr's Moment area method, Conjugate beam method, unit load method. Torsion of Shafts, Elastic stability of columns, Euler's Rankine's and Secant formulae.

1.3 Structural Analysis:

Castigliano's theorems I and II, unit load method of consistent deformation applied to beams and pin jointed trusses. Slope-deflection, moment distribution.

Rolling loads and Influences lines: Influences lines for Shear Force and Bending moment at a section of beam. Criteria for maximum shear force and bending Moment in beams traversed by a system of moving loads. Influences lines for simply supported plane pin jointed trusses.

Arches: Three hinged, two hinged and fixed arches, rib shortening and temperature effects.

Matrix methods of analysis: Force method and displacement method of analysis of indeterminate beams and rigid frames.

Plastic Analysis of beams and frames: Theory of plastic bending, plastic analysis, statical method, Mechanism method.

Unsymmetrical bending: Moment of inertia, product of inertia, position of Neutral Axis and Principle Axes, calculation of bending stresses.

2. Design of Structures: Steel, Concrete and Masonry Structures:

2.1 Structural Steel Design:

Structural Steel: Factors of safety and load factors. Riveted, bolted and welded joints and connections. Design of tension and compression member, beams of built-up section, riveted and welded plate girders, gantry girders, stanchions with battens and lacings.

2.2 Design of concrete and Masonry Structures:

Concept of mix design, Reinforced Concrete: Working Stress and Limit State method of design – Recommendations of I.S. codes Design of one way and two way slabs, stair-case slabs, simple and continuous beams of rectangular, T and L sections, Compression members under direct load with or without eccentricity.

Cantilever and Counter fort type retaining walls.

Water tanks: Design requirements for Rectangular and circular tanks resting on ground.

Prestressed concrete: Methods and systems of prestressing, anchorages, Analysis and Design of sections for flexure based on working stress, loss of prestress.

Design of brick masonry as per I.S. codes.

3. Geotechnical Engineering:

Soil Type and structure – gradation and particle size distribution – consistency limits.

Water in soil – capillary and structural – effective stress and pore water pressure – permeability concept – field and laboratory determination of permeability – Seepage pressure – quick sand conditions – Shear strength determination – Mohr Coulomb concept.

Compaction of soil – Laboratory and field tests.

Compressibility and consolidation concept – consolidation theory – consolidation settlement analysis.

Earth pressure theory and analysis for retaining walls, Application for sheet piles and Braced excavation.

Bearing capacity of soil – approaches for analysis – Field tests – settlement analysis – stability of slope of earth walk.

Subsurface exploration of soils – methods

Foundation - Type and selection criteria for foundation of structures – Design criteria for foundation – Analysis of distribution of stress for footings and pile – pile group action – pile load test. Ground improvement techniques.

Soil stabilization.

4. Construction Technology, Equipment, Planning and Management:

4.1 Construction Technology:

Engineering Materials:

Physical properties of construction, materials with respect to their use in construction – Stones, Bricks and Tiles; Lime, Cement, different types of Mortars and Concrete. Specific use of ferro cement, fibre reinforced C.C., High strength concrete and PPC.

4.2 Construction:

Masonry principles using Brick, stone, Blocks – construction detailing and strength characteristics.

Types of plastering, point, flooring, roofing and construction features. Common repairs in buildings.

Principles of functional planning of building for residents and specific use – Building code provisions.

Basic principles of detailed and approximate estimating – specification writing and rate analysis – principles of valuation of real property.

Machinery for earthwork, concreting and their specific uses – Factors affecting selection of equipments – operating cost of equipments.

4.3 Construction Planning and Management:

Construction activity – schedules – organization for construction industry – Quality assurance principles.

Use of basic principles of network – analysis in form of CPM and PERT – their use in construction monitoring, Cost optimization and resource allocation.

5. Surveying Transportation Engineering

5.1 Surveying:

Common methods and instruments for distance and angle measurement for CE work – their use in plane table, traverse survey, leveling work, triangulation, contouring and topographical map.

Basic principles of photogrammetry and remote sensing.

5.2 HighwayEngineering:

Principles of Highway alignments – classification and geometrical design elements and standards for Roads.

Pavement structure for flexible and rigid pavements – Design principles and methodology of pavements.

Typical construction methods and standards of materials for stabilized soil WBM, Bituminous works and CC Roads.

Different types of joints in pavements.

Surface and sub-surface drainage arrangements for roads – culvert structures. Pavement distresses and strengthening by overlays.

6. EnvironmentalEngineering:

6.1 WaterSupply:

Predicting demand for water, impurities, of water and their significance, physical, chemical and bacteriological analysis, waterborne diseases, standards for potable water.

6.2 Intake ofwater:

Water treatment: principles of coagulation, flocculation and sedimentation; slow; rapid – pressure, filters; chlorination, softening, removal of taste, odour and salinity.

6.3 Seweragesystems:

Domestic and industrial wastes, storm sewage-separate and combined system, flow through sewers, design of sewers.

6.4 Sewagecharacterization:

BOD, COD, solids, dissolved oxygen, nitrogen and TOC. Standards of disposal in normal watercourse and on land.

6.5 Sewagetreatment:

Working principles, units, chambers, sedimentation tanks, tricking filters, oxidation ponds, activated sludge process, septic tank, disposal of sludge, recycling of wastewater.

6.6 Solidwaste:

Collection and disposal in rural and urban contexts, management of long-term ill effects.

7. Environmental pollution: Sustainable development, Rawastes and disposal. Environmental impact assessment for thermal power plants, mines, river valley projects. Air pollution. Pollution controlacts.

8. Basic of computer softwareusage

Basic knowledge of MS Office (MS Word, MS Excel, MS Power Point)

ADDITIONAL TOPICS (20% question of this will be part of part-B)

1. Introduction:

- CPWD/PWD/MES – Schedule of Rates
- Estimation
- Bar Bending Schedule
- Knowledge of NBC and IS codes

2. Basic principles of Analysis of Rates:

- Methodology of (AOR) Analysis of Rates
- Market Rate Item
- Quotation from vendor

3. Specifications of common items.

4. Principles of Construction Contracts:

- Item Rate
- Lumpsum
- EPC
- Statutory Provisions of contract
- Labour Laws

5. Quality Control and Assurance:

- For Pavementwork
 - Rigid (PQC)
 - Flexible (Bituminous)
- For buildingworks
 - Material – Bricks, Aggregate, Sand, Steel, Cement, Glass and other important building materials.

6. Project Management:

- MS Project/Primavera
- Revision of schedule
- Critical Activity etc.
- Milestones

7. Green building concept:

- Basic idea of Rating systems like GRIHA / LEEDS etc.
- Environmental clearance
- Management of solid and liquid waste

6. For post 06 - Deputy Manager (Design):-

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	Section-I (40 Questions, 1 mark each) i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Section -II (80 Questions, 1 mark each) Subject based questions.	<ul style="list-style-type: none"> The questions will be set Bilingual (i.e. English and Hindi language) The maximum marks will be 120. There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION -I

<u>Part -A :- VARC:-</u>	<u>Part - B :- DILR</u>	<u>Part - C :- QA</u>	<u>PART -D GK (Indian & Global Environment Section)</u>
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word Substitution 11. Para Completion and Inference	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocks and Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 15. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

SECTION- II

AESTHETICS

Plato, Aristotle, Longinus, Descarte, Berkeley, Kant, Hegal, Schopenhouser, Nietzsche, Lipps, Dewey, Croce, Gentile, Worringer, Herbert Reed.

- Imitation play and Intuition.
- Role of the sub-conscious in artistic creation.
- Theories relating to works of Art.
- (a) Organic Structure. b) Content and Form. c) Expressiveness.
- Theories relating to response and appreciation.
- (a) Empathy(b) Psychicaldistance.(c) Pleasure.(d) Art in relation to Society.
- western Aesthetics (Classicism -stability, Baroque -dynamism , Romanticism - emotion ,Realism - everyday life

ADVERTISING PROFESSION AND PRACTICE

- Understanding in detail Campaign planning, appeal, objectives, continuity.
- Different functions of Advertising Business Research and Motivational Research– present and future action.
- Understanding Market Research and the various design approach campaigning.
- Printing: Understanding in detail Offset (CMYK)and Digital process (Inkjet printing and laser Printing)
- Marketing (4P's - Product , Price, Place, Promotion)
- AIDA (attention ,Interest , Desire , Action
- Sales Promotion
- POP
- Promotional activities
- Consumer Behavior in Advertising.
- Typography (font , kerning, tracking, leading etc)
- Colour creates mood

HISTORY OF ART

INDIAN ART

1. Company School - style of art and its location.
2. Kalighat Paintings
3. Ravi Verma - Sri Rama conquers Varuna from Ramayana
4. Bombay Progressive Artists' Group- artists and founders.
5. Mannerism: (16th C.): Rosso, Parmagianino, Tintoretto, El Greco. Bologna, Cellini, Jean Goujon.
6. Baroque: (17th C.): Carracci, Caravaggio, Frans Hals, Rembrandt, Vermeer, Rubens, Velazquez, Poussin, Claude Lorian, Berini.
7. Rococo: (18th C.): Watteau, Boucher, Gainsborough, Hogarth, Reynolds.
8. Classicism: (19th C.): David, Ingres
9. Romanticism–Goya, Delacroix, Constable, Turner
10. Realism–Courbet, Millet, Corot.
11. Impressionism–Manet, Renoir, Degas.
12. Mannerism: (16th C.): Rosso, Parmagianino, Tintoretto, El Greco. Bologna
13. Expressionism (Jackson Pollock)
14. Cubism (Pablo Picasso)
15. Fauvism (Henri Matisse)
16. Surrealism (Salvador Dali)
17. Abstractionism. - (artist Mondrian famous work)

7. For post 07 – Deputy Manager (Security)

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Note: 30 Questions for each section, 1 mark per question.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION - I

<u>Part –A :-</u>	<u>Part – B :-</u>	<u>Part – C :-</u>	<u>PART –D :-</u>
Verbal Ability & Reading Comprehension <ol style="list-style-type: none"> 1. Jumbled Paragraphs 2. Sentence Completion 3. Sentence Correction 4. Verbal Reasoning 5. Antonyms 6. Fill in the blanks 	Logical Reasoning <ol style="list-style-type: none"> 1. Coding-Decoding 2. Puzzles 3. Strong Arguments & weak Arguments 4. Multi-dimensional Arguments 5. Courses of Action 6. Critical Reasoning 7. Visual Reasoning 	General Aptitude <ol style="list-style-type: none"> 1. Algebra 2. Averages 3. Geometry 4. Partnership (Accounts) 5. Percentages 6. Profit & Loss 7. Ratios and Proportion 8. Time-Speed-Distance 9. Work and Time 	General Knowledge <ol style="list-style-type: none"> 1. Current affairs 2. World Records 3. Business 4. History 5. Famous awards and Prizes 6. Geography 7. Finance 8. Social issues 9. Politics 10. Science

8. For post 08 – Senior Assistant (Electrical)

Type of Examination	Duration of Examination	Syllabus	Remarks
Written Examination (120 Marks - Multiple choice objective type paper)	02 Hours	Section-I (40 Questions,1 markeach) i. Verbal Ability & Reading Comprehension ii. Data Interpretation & Logical Reasoning iii. General Aptitude (QA) iv. General Knowledge Section -II (80 Questions,1 mark each) Subject based questions.	<ul style="list-style-type: none"> • The questions will be set Bilingual (i.e. English and Hindi language) • The maximum marks will be 120. • There will be no negative marking for every wrong answer to eliminate the element of chance.

SECTION –I

Part –A :-	Part – B :-	Part – C :- QA	PART –D GK (Indian & Global Environment Section)
Verbal Ability 1. Para-Jumbles 2. Reading Comprehension 3. Sentence Completion 4. Sentence Correction 5. Syllogisms 6. Verbal Logic 7. Verbal Reasoning Reading Comprehension:- 1. Analogies 2. Antonyms 3. Contextual Usage 4. Different Usage of Same Word 5. Fill in The Blanks 6. Foreign Language Words Used in English 7. Grammar 8. Idioms 9. Jumbled Paragraphs 10. One Word	Data Interpretation 1. Assumptions 2. Bars 3. Binary Logic 4. Blood Relations 5. Case lets 6. Clocksand Calendars 7. Coding-Decoding 8. Data Arrangement 9. Data Structures 10. Data Sufficiency 11. Direction Sense 12. Family Tree 13. Line Graphs 14. Pie Charts 16. Proposition Logical Reasoning 1. Puzzles 2. Seating Arrangement 3. Series 4. Sets 5. Statements 6. Syllogism 7. Tables 8. Venn Diagram	1. Algebra 2. Averages 3. Geometric Progression 4. Geometry 5. HCF & LCM 6. Inequalities 7. In-Equations Quadratic and Linear Equations 8. Logarithms 9. Mensuration 10. Number System 11. Partnership (Accounts) 12. Percentages 13. Profit & Loss 14. Ratios and Proportion 15. Surds and Indices 16. Time-Speed-Distance 17. Trigonometry 18. Work and Time	1. Current affairs 2. World Records 3. Business 4. Top officials of big companies 5. Famous awards and Prizes 6. Books and Authors 7. Punch line of companies 8. History 9. International Organization 10. Important Quotations 11. Social issues 12. Geography 13. Sports 14. Finance 15. Major Corporate news 16. Science 17. Entertainment 18. Politics

Substitution 11. Para Completion and Inference			
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SECTION-II

Basic concepts : Concepts of resistance, inductance, capacitance, and various factors affecting them. Concepts of current, voltage, power, energy and their units.

Magnetic Circuit : Concepts of flux, mmf, reluctance, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration e.g. straight, circular, solenoidal, etc. Electromagnetic induction, self and mutual induction.

AC Fundamentals : Instantaneous, peak, R.M.S. and average values of alternating waves, Representation of sinusoidal wave form, simple series and parallel AC Circuits consisting of R.L. and C, Resonance, Tank Circuit. Poly Phase system – star and delta connection, 3 phase power, DC and sinusoidal response of R-L and R-C circuit.

Measurement and measuring instruments : Measurement of power (1 phase and 3 phase, both active and re-active) and energy, 2 wattmeter method of 3 phase power measurement. Measurement of frequency and phase angle. Ammeter and Voltmeter (both moving coil and moving iron type), Extension of range, Wattmeter, Multimeters, Megger, Energy meter AC Bridges. Use of CRO, Signal Generator, CT, PT and their uses. Earth Fault detection.

Electrical Machines : (a) D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. (b) 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase / 3 phase transformers. Auto transformers. (c) 3 phase induction motors, rotating magnetic field, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics.

Fractional Kilowatt Motors and Single Phase Induction Motors : Characteristics and applications.

Generation, Transmission and Distribution – Different types of power stations, Load factor, diversity factor, demand factor, cost of generation, inter-connection of power stations. Power factor improvement, various types of tariffs, types of faults, short circuit current for symmetrical faults. Switchgears – rating of circuit breakers, Principles of arc extinction by oil and air, H.R.C. Fuses, Protection against earth leakage / over current, etc. Buchholz relay, Merz-Price system of protection of generators & transformers, protection of feeders and bus bars. Lightning arresters, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor.

Estimation and costing : Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules.

Basic Electronics : Working of various electronic devices e.g. P N Junction diodes, Transistors (NPN and PNP type), BJT and JFET. Simple circuits using these devices.

Electrical Machines : (a) D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. (b) 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase / 3 phase transformers. Auto transformers. (c) 3 phase induction motors, rotating magnetic field, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics.

Additional Topics

1. Power and distribution transformer and their operation & maintenance.
2. Electrical distribution system & maintenance.
3. Operation & maintenance of electrical 11kv/415V sub –station equipments.
4. Operation & maintenance of DG sets.

5. Operation & maintenance of industrial electrical installation.
6. Power factor improvement and Energy saving.
7. Application of electronics in electrical engineering.
8. Earthing in electrical system.
- 9.** Type & utilization of non-conventional energy sources.