

**RECRUITMENT OF JUNIOR ENGINEER-I (MECHANICAL), JUNIOR ENGINEER-I (CIVIL),
JUNIOR ENGINEER-I (CONTROL & INSTRUMENTATION / COMMUNICATION),
JUNIOR ENGINEER-I (FIRE & SAFETY) & JUNIOR CHEMIST**

INFORMATION HANDOUT FOR ONLINE EXAMINATION

This handout contains details pertaining to various aspects of the online exam you are going to undertake and important instructions about related matters. You are advised to study the handout carefully as it will help you in preparing for the examination.

1. Scheme of Examination :

The online examination will comprise the objective type multiple choice tests as stated below:-

Sr. No.	Name of the Test	Number of Questions	Maximum Marks	Version	Duration
Part A	Professional Knowledge	60	120	English	60 Minutes
Part B (i)	Reasoning & Mental Ability	08	08	English only except test of Hindi General	60 Minutes
(ii)	General Knowledge (GK) & Everyday Science				
	(a) GK related to Rajasthan (b) GK related to World, India and Everyday Science	36 12	36 12		
(iii)	Hindi General	08	08		
(iv)	English General	08	08		
(v)	Mathematics	08	08		
	TOTAL	140	200		

PART B OF THE TEST PAPER WILL BE "OMNIBUS", WITHOUT CREATING ANY SECTION/SUB-SECTION IN THE TEST PAPER.

Both Part A & Part B are separately timed. You can attempt any question in allotted 60 minutes for the respective part. You will not be able to attempt any question from Part B while attempting Part A and vice versa.

The duration for the test is 120 minutes; however the candidate may have to be at the venue for approximately 240 minutes including the time required for attendance marking, IRIS scan, submission of Call Letter with Photocopy of the Photo-ID proof, logging in, etc. All the questions will have multiple choices. Out of the five answers to a question only one will be the correct answer. **You will have to select the correct answer and 'mouse click' that alternative which you feel is correct. The alternative/ option that you have clicked on will be highlighted and will be treated as your answer to that question. There will be penalty for wrong answers marked by you. For every wrong answer marked by you, 1/4th of the marks assigned to that question will be deducted as penalty.**

2. Sample Questions :

Please note that the types of questions in this handout are only illustrative and not exhaustive. In the actual examination you will find questions of a higher difficulty level on some or all of these types and also questions on the types not mentioned here. Some sample questions are given below.

SAMPLE QUESTIONS

PART 'A' - PROFESSIONAL KNOWLEDGE

JUNIOR ENGINEER (MECHANICAL)

- Q.1.** The ratio of the volume of free air delivery per stroke to the swept volume of the piston, is known as _____
- (1) Compressor efficiency (2) Volumetric efficiency (3) Isothermal efficiency
(4) Mechanical efficiency (5) relative efficiency

- Q.2.** The machinery in which starting torque as compared to ratio torque is maximum is _____
(1) fan (2) blower (3) loader crusher (4) machine tool (5) None of these

JUNIOR ENGINEER (CIVIL)

- Q.1.** If the load on the beam is increased, the tensile stress in concrete below the neutral axis will _____
(1) decrease (2) increase (3) remain constant
(4) vary in both ways (5) Other than those given as options
- Q.2.** Marble is an example of _____
(1) aqueous rock (2) metamorphic rock (3) sedimentary rock
(4) igneous rock (5) Other than those given as options

JUNIOR ENGINEER (CONTROL & INSTRUMENTATION/COMMUNICATION)

- Q.1.** Which of the following is an undesirable dynamic characteristic of an instrument?
(1) Time lag (2) Reproducibility (3) Dead zone
(4) Static error (5) Bias

JUNIOR ENGINEER (FIRE & SAFETY)

- Q.1.** Which of the following is the IS code for maintenance of First-Aid Fire Extinguishers ?
(1) 15683:2006 (2) 2190:2010 (3) 1049:1969 (4) 926:1959 (5) 456:2000
- Q.2.** In general, which type of Fire Pump is used in the Fire Service?
(1) Bucket and Plunger Pump (2) Force Pump (3) Centrifugal Pump
(4) Ejector Pump (5) Rotary or Semi Rotary Pump

JUNIOR CHEMIST

- Q.1.** Which of the following is true about Legionnaires' disease?
(1) It caused by a Gram-positive coccus
(2) It is a contagious disease
(3) It has an incubation period of 2 days to 3 years
(4) It is characterised by the development of pneumonia
(5) It can be prevented by vaccination

Part- "B" - Illustrative questions for Part "B" as follows :

REASONING & MENTAL ABILITY

This is a test to see how well you can think. It contains questions of various kinds. Here are some sample questions.

- Q.1-2. Directions :** In each of the following questions, there are five groups of letter groups or words in each question. Four of these letter groups or words are alike in some way, while one is different. Find the one which is different.

- Q.1.** (1) black (2) red (3) green (4) paint (5) yellow
- Q.2.** (1) BC (2) MN (3) PQ (4) XZ (5) ST
- Q.3.** If the letters in the word TOPS can be rearranged to form a meaningful word beginning with O, the last letter of that word is your answer. If more than one such word can be formed, M is the answer and if no such word can be formed, X is the answer.
(1) T (2) P (3) M (4) S (5) X
- Q.4.** If the letters of the following alphabet interchange positions, so that A takes the place of Z and Z takes the place of A; B takes the place of Y and Y takes the place of B and so on, what will be the 13th letter from the right ?
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
(1) M (2) N (3) O (4) L (5) Other than those given as options

GENERAL KNOWLEDGE & EVERYDAY SCIENCE

- Q.1.** Lake palace is situated in which of the following cities ?
(1) Jodhpur (2) Jaipur (3) Udaipur (4) Jaisalmer (5) None of these
- Q.2.** Which of the following place is famous for Bird Sanctuary ?
(1) Bikaner (2) Kota (3) Jodhpur (4) Bharatpur (5) None of these

Q.3. When was Apna Gaon Apna Kaam Yojana started in Rajasthan ?

- (1) 01.01.2001 (2) 01.01.1991 (3) 01.01.1999
(4) 01.01.1990 (5) Other than those mentioned as options

HINDI GENERAL

This is a test to see how will you 'Know' Hindi. Your Hindi Language ability would be tested through questions on grammar, vocabulary, sentence completion, synonyms, antonyms, comprehension of a passage, etc.

प्र.1-3. नीचे दिये गये प्रश्नों में से हरेक में एक वाक्य दिया गया है जिसे (1), (2), (3) और (4) भागों में बांटा गया है। वाक्य को पढ़ कर ज्ञात कीजिये कि वाक्य में शब्दों के गलत प्रयोग, वर्तनी या व्याकरण की कोई त्रुटि तो नहीं है। त्रुटि अगर होगी तो वाक्य के किसी एक ही भाग में होगी। इस भाग का क्रमांक ही आपका उत्तर है। अगर वाक्य त्रुटिहीन है तो उत्तर (5) दीजिये अर्थात् त्रुटि नहीं।

प्र.1. चालीस लडकों का एक मिला जुला / ठहाका उठा था और / कक्षा की छत पे टकरा कर /
(1) (2) (3)
सब का सब एकदम मेरे भीतर उतर गया था। त्रुटि नहीं
(4) (5)

प्र.2. सेठ पुरुषोत्तम दास पूना की सरस्वती पाठशाला / का मुआयना करने के बाद में / बाहर निकले तो एक लडकी ने /
(1) (2) (3)
दौड़ कर उनका दामन पकड़ लिया। त्रुटि नहीं
(4) (5)

प्र.3. वह झपट कर कुर्सी से उठी / और बड़े वेग से कई कमरो / और बरामदो को पार करती /
(1) (2) (3)
मैनेजर के सामने को आकर खड़ी हो गई। त्रुटि नहीं
(4) (5)

प्र.4-5. नीचे दिए गए प्रश्नों में से एक शब्द समूह या वाक्यांश दिया गया है और फिर उसके बाद पाँच ऐसे शब्द सुझाए गए हैं जो कि इस पूरे वाक्यांश या शब्द समूह का अर्थ एक शब्द में स्पष्ट कर देते हैं। आपको वह शब्द ज्ञात कर उसको उत्तर के क्रम में दर्शाना है।

प्र.4. जिसका कभी नाश न हो।
(1) अपनाश (2) निरामिष (3) अटल (4) अविनाशी (5) सर्व व्यापक

प्र.5. कम बोलने वाला
(1) मिठबोला (2) समदर्शी (3) मृदुभाषी (4) संयमित (5) मितभाषी

ENGLISH GENERAL

This is a test to see how well you know English. Your English language ability would be tested through questions on grammar & vocabulary, synonyms, antonyms, sentence completion, comprehension of a passage etc.

Direction : Pick out the most appropriate word from the words given below each sentence to complete it meaningfully.

Q.1. He quickly glanced the book to find what it said about the Indian economy.
(1) at (2) through (3) in (4) to (5) over

Q.2. The counsel urged the court to down the obnoxious law.
(1) enact (2) enforce (3) cancel (4) strike (5) declare

Directions : Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The number of that part of the sentence is your answer. If there is no error, the answer is 'No error'.

Q.3. I am twenty / two years old / when I first / joined the bank. No error
(1) (2) (3) (4) (5)

Q.4. To the Hindus / the Ganga is / holier than / any other river. No error
(1) (2) (3) (4) (5)

MATHEMATICS

Q.1. Sohanlal purchased 120 reams of paper at Rs.100 per ream. The expenditure on transport was Rs.480. He had to pay an octroi duty of 50 paise per ream and the coolie charges were Rs.60. What should be the selling price of each ream if he wants a profit of 20% ?
(1) Rs.126 (2) Rs.115.50 (3) Rs.105 (4) Rs. 120 (5) Other than those given as options

Q.2. The interest on a certain deposit at 9% per annum is Rs. 405 in one year. How much will be the additional interest in one year on the same deposit at 10% per annum ?
 (1) Rs. 40.50 (2) Rs. 450 (3) Rs. 855 (4) Rs. 45 (5) Other than those given as options

Q.3-5. Study the following table carefully and answer the questions given below _____

Distribution of 1000 candidates as regards their marks in written examination out of 300 and interview out of 100 in a selection examination

Written Examination Marks	INTERVIEW MARKS					
	Below 30	30-39	40-49	50-59	60-69	70 & above
260 & above	8	18	26	18	26	4
210 to 259	5	4	30	22	10	9
160 to 209	16	10	45	56	18	9
110 to 159	28	42	100	190	15	5
60 to 109	35	115	20	8	7	5
Below 60	32	32	20	4	6	2






Q.3. How many candidates did obtain more than 69 percent marks and above in both written examination and interview ?
 (1) 22 (2) 49 (3) 13 (4) 9 (5) Other than those given as options

Q.4. If approximately 325 candidates were to be qualified in the written examination, what should be the percentage of the qualifying marks ?
 (1) above 20 (2) above 70 (3) above 36
 (4) above 63 (5) Other than those given as options

Q.5. About 42 percent of the candidates fall in which of the following ranges of the interview marks ?
 (1) 110-159 (2) 110 & below (3) 50 to 70
 (4) 50 & above (5) Other than those given as options

3. Details of the Online Examination :

- (1) The examination would be conducted on-line i.e. on a computer.
- (2) All tests, except test of Hindi General, will be in English.
- (3) All the questions will have multiple choices. Out of the five answers to a question only one will be the correct answer. **The candidate has to select the correct answer and 'mouse click' that alternative which he/ she feels is correct. The alternative/ option that is clicked on will be treated as the answer to that question. Answer to any question will be considered for final evaluation, only when candidates have submitted the answers by clicking on "Save & Next" or "Mark for Review & Next".**
- (4) The clock has been set at the server and the countdown timer at the top right corner of your screen will display the time remaining for you to complete the exam. When the clock runs out the exam ends by default - you are not required to end or submit your exam.
- (5) The Question Palette displayed on the right side of screen will show the status of each question using one of the following symbols :

-  You have not visited the question yet.
-  You have not answered the question.
-  You have answered the question.
-  You have NOT answered the question, but have marked the question for review.
-  The question(s) "Answered and Marked for Review" will be considered for evaluation.

The Marked for Review status for a question simply indicates that you would like to look at that question again. *If a question is answered and Marked for Review, your answer for that question will be considered in the final evaluation.*

- (6) To select a question to answer, you can do one of the following :
 - (a) Click on the question number on the question palette at the right of your screen to go to that numbered question directly. Note that using this option **does NOT save your answer** to the current question.

- (b) Click on '**Save & Next**' to save answer to current question and to go to the next question in sequence.
 - (c) Click on '**Mark for Review and Next**' to save answer to current question, mark it for review, and to go to the next question in sequence.
- (7) To select your answer, click on one of the option buttons.
 - (8) To change your answer, click another desired option button.
 - (9) To save your answer, you **MUST** click on **Save & Next**.
 - (10) To deselect a chosen answer, click on the chosen option again or click on the **Clear Response** button.
 - (11) To mark a question for review click on **Mark for Review & Next**. *If an answer is selected for a question that is Marked for Review, the answer will be considered in the final evaluation.*
 - (12) To change an answer to a question, first select the question and then click on the new answer option followed by a click on the **Save & Next** button.
 - (13) Questions that are saved or marked for review after answering will ONLY be considered for evaluation.**
 - (14) The candidates are requested to follow the instructions of the "Test Administrator" carefully. If any candidate does not follow the instructions / rules, it would be treated as a case of misconduct/ adoption of unfair means and such a candidate would be liable for debarment from appearing for examinations for a period as decided by Vidyut Nigams.
 - (15) The candidates may ask the Test Administrator about their doubts or questions only before the commencement of the test. No query shall be entertained after the commencement of the examination.
 - (16) After the expiry of test duration, the candidates will not be able to attempt any question or check their answers. The answers of the candidate would be saved automatically by the computer system even if he/ she has not clicked the "Submit" button.
 - (17) Please note :**
 - (a) Candidates will not be allowed to "finally submit" unless they have exhausted the actual test time.**
 - (b) Under no circumstances should a candidate click on any of the 'keyboard keys' once the exam starts as this will lock the exam.**

4. General Instructions :

- (1) Please note date, reporting time and venue address of the examination given in the Call Letter.
- (2) You may visit the venue one day before the Online Examination to confirm the location so that you are able to report **on time** (as printed on the Call Letter) on the day of the examination. Late comers will not be allowed to appear for the examination.
- (3) The Call Letter should be brought with you to the examination venue along with your recent passport size photograph duly pasted on it. (Preferably the same photograph as was uploaded).
- (4) You must scrupulously follow the instructions of the Test Administrator and Vidyut Nigams Representative at the examination venue. If you violate the instructions you will be disqualified and will be asked to leave the examination venue.
- (5) No use of calculators (separate or with watch), books, note books or written notes, cell phones (with or without camera facility), or any other electronic device will be allowed during the examination. **After AarogyaSetu status display at the entry gate, candidates will be required to switch off their mobile phones, and deposit it at the designated location, to be collected while exiting.**
- (6) Please bring the call letter with your photograph affixed thereon, currently valid Photo identity proof in original and a photocopy of the same ID proof which you bring in original - **THIS IS ESSENTIAL. The call-letter along with photocopy of photo identity proof duly stapled together are to be submitted at the end of exam by putting it in the designated drop-box.** Currently valid photo identity proof may be PAN Card/Passport/Permanent Driving License/Voter's Card with photograph / Bank Passbook with photograph/Photo Identity proof issued by a Gazetted Officer on official letterhead /Photo Identity proof issued by a People's Representative on official letterhead/Valid recent Identity Card issued by a recognised College / University / Aadhar/E-aadhar Card with a photograph/Employee ID in original/Bar Council Identity card with photograph. **Please Note - Ration Card and Learner's Driving License will NOT be accepted as valid ID proof.** Please note that your name as appearing on the call letter (provided by you during the process of registration) should exactly match the name as appearing on the photo identity proof. Female candidates who have changed first/last/middle name post marriage must take special note of this. If there is any mismatch between the name indicated in the Call Letter and Photo Identity Proof you will not be allowed to appear for the exam. In case of candidates who have changed their name will be allowed only if they produce Gazette Notification / their marriage certificate/ affidavit.

- (7) Photograph and IRIS will be captured at the examination venue. The photo captured will be matched with the photo uploaded by the candidate in the application. You must NOT change your appearance from the photo uploaded by you.
(IRIS scan is introduced in lieu of Biometric thumb impression due to covid-19 situation to avoid circulation of infection with multiple thumb impressions). Decision of the IRIS data verification authority with regard to its status (matched or mismatched) shall be final and binding upon the candidates. Refusal to participate in the process of IRIS scanning / verification on any occasion may lead to cancellation of candidature. With regards to the same, please note the following :
- 'LEFT EYE (IRIS)' will be captured for all the candidates.**
 - Candidates should remove Contact Lenses and Spectacles while capturing IRIS. Candidates are advised to avoid wearing contact lenses and prefer spectacles.**
 - There is no touch involved in IRIS scanning. Half feet distance between scanner and eye will be maintained.**
- (Any failure to observe these points will result in non-admittance for the examination)
- (8) Your responses (answers) will be analysed with other candidates to detect patterns of similarity of right and wrong answers. If in the analytical procedure adopted in this regard, it is inferred/concluded that the responses have been shared and scores obtained are not genuine/valid, your candidature may be cancelled. Any candidate who is found copying or receiving or giving assistance or engaging in any behaviour unbecoming of a candidate will not be considered for assessment. Vidyut Nigams may take further action against such candidates as deemed fit by it.
- (9) You should bring with you a ball-point pen & stamp ink pad. A sheet of paper will be provided which can be used for rough work or taking down the question number you would like to review at the end of the test before submitting your answers. After the test is over you MUST drop in the drop-box this sheet of paper before leaving the venue.
- (10) The possibility of occurrence of some problem in the administration of the examination cannot be ruled out completely which may impact test delivery and/or result from being generated. In that event, every effort will be made to rectify such problem, which may include movement of candidates, delay in test. Conduct of a re-exam is at the absolute discretion of test conducting body. Candidates will not have any claim for a re-test. Candidates not willing to move or not willing to participate in the delayed process of test delivery shall be summarily rejected from the process.
- (11) The scores across various sessions will be equated to adjust for slight differences in difficulty level of different test batteries used across sessions. More than one session are required if the nodes capacity is less or some technical disruption takes place at any centre or for any candidate.
- (12) Anyone found to be disclosing, publishing, reproducing, transmitting, storing or facilitating transmission and storage of test contents in any form or any information therein in whole or part thereof or by any means verbal or written, electronic or mechanical or taking away the papers supplied in the examination hall or found to be in unauthorised possession of test content is likely to be prosecuted.
- (13) Instances for providing incorrect information and/or process violation by a candidate detected at any stage of the selection, process will lead to disqualification of the candidate from the selection process and he/she will not be allowed to appear in any Vidyut Nigams recruitment process in the future. If such instances go undetected during the current selection process but are detected subsequently, such disqualification will take place with retrospective affect.

IMPORTANT POINTS TO REMEMBER

You are advised to bring with you the following:

- Call Letter with photo affixed thereon and photo ID card in **Original** and photocopy as mentioned in point 6. (Please note that name on the Photo ID MUST be exactly same as printed on the Call Letter.)
- One Ball point pen & Stamp ink pad.

SOCIAL DISTANCING MODE CONDUCT OF EXAM RELATED INSTRUCTIONS

- Candidate is required to report at the exam venue strictly as per the time slot mentioned in the Call Letter AND/OR informed via SMS/Mail on their registered mobile number/mail prior to exam date. It is expected that candidate strictly adhere to this time slot – as entry into the exam venue will be provided based upon the individual's time slot ONLY. Candidates should report atleast 15 minutes before the Reporting time indicated on the call Letter.**
- Mapping of 'Candidate Roll Number and the Lab Number' will NOT be displayed outside the exam venue, but the same will be intimated to the candidates individually at the time of entry of the candidate to the exam venue.**
- Items permitted into the venue for Candidates
Candidates will be permitted to carry only certain following items with them into the venue :-

- a. **Mask (WEARING A MASK is COMPULSORY)**
- b. **Gloves**
- c. **Personal transparent water bottle (Candidate should bring his / her own water bottle)**
- d. **Personal hand sanitizer (50 ml)**
- e. **A simple pen and a stamp pad**
- f. **Call Letter should be brought with the Photocopy of the Photo ID stapled with it. Original ID (same as Photocopy) is also to be brought for verification. The name on the ID and on the Call Letter should be exactly the same.**
- g. **In case of Scribe Candidates - Scribe form duly filled and signed with Photograph affixed.**

No other Items are permitted inside the venue.

- 4 **Candidate should not share any of their personal belonging/material with anyone**
- 5 **Candidate should maintain safe social distance with one another.**
- 6 **Candidate should stand in the row as per the instructions provided at venue.**
- 7 **If candidate is availing services of a scribe, then scribe also should bring their own Gloves, Mask, sanitizer (50ml) and transparent water bottle. Wearing a mask is compulsory. Both candidate and Scribe will require to be wearing Mask.**
- 8 **A Candidate must have AarogyaSetu App installed on his mobile phone. The AarogyaSetu status must show candidate's risk factor. A candidate will have to display this status to the Security Guard at the entry into the exam venue. In case a candidate does not have a smart phone, he/she will have to bring in a signed declaration to this effect (declaration is provided along with this Call Letter) and show the same to the Security Guard at the entry into the exam venue. (If candidate is availing services of a Scribe, then Scribe should also follow the same instructions.)**
- 9 **After AarogyaSetu status display at the entry gate, candidates will be required to switch off their mobile phones, and deposit it at the designated location, to be collected while exiting.**
- 10 **All candidates (and Scribe, if applicable) will be checked with Thermo guns at the entry point for temperature.**
- 11 **Candidate registration :**
 - a. **Candidate registration will be done through photo and IRIS capture. Photo captured will be matched with the photo uploaded by you in the application (as printed in the call letter). You must NOT change your appearance from the photo uploaded by you.**
 - b. **Photograph and IRIS capture will be taken while candidate is standing.**
 - c. **Seat number will be given to the candidate.**
- 12 **Rough sheet, call letter and ID proof management**
 - **Rough sheet(s) kept at each candidate desk will be used by candidate.**
 - **Candidate must follow the instructions related to dropping the call letter with the ID proof copy in the boxes provided at the exit of lab/venue while leaving or at the designated place. Those candidates who avail the services of Scribe should submit Scribe form also along with the Call Letter and ID proof copy**
 - **Candidate must drop the rough sheets, call letter, ID proof copy in the boxes provided at the exit of lab/venue while leaving or at the designated place indicated by Exam officials.**
- 13 **Post Examination Controls**
 - **On completion of examination, IRIS verification will be done for each candidate.**
 - **The candidates will be permitted to move out in an orderly manner one candidate at a time. Please wait for instructions from invigilator and do not get up from your seat until advised.**

WISH YOU GOOD LUCK