

**ELECTRICITY DEPARTMENT  
ANDAMAN AND NICOBAR ADMINISTRATION**

**EMPLOYMENT NOTICE**

The Electricity Department, A&N Administration, Port Blair, invites application from eligible Schedule Tribe, OBC and General Category candidates in the prescribed format for the following post as per the details given below –

Sl. No.	Name of Post	Vacancy (No. of Post)			
		Total	General	OBC	ST
1	2	3	4	5	6
1.	Junior Engineer	32	15	10	07

The total number of vacancy is likely to increase due to future vacancy and shall be filled by the Panel/Waiting list valid for one year.

The details showing the scale of pay, age limit, educational qualification, and terms & conditions are given below –

1.	Name of Post	<b>Junior Engineer</b>
2.	Pay Band/ Pay Scale and Grade Pay	Level-6 (Rs.35400-112400) (Revised) PB-2 - Rs.9300-34800 GP – Rs.4200 (Pre-revised)
3.	Educational and other qualifications required for direct recruits	1. Degree in Electrical / Mechanical / Electrical & Electronics Engineering from a recognized University. OR Diploma in Electrical / Mechanical / Electrical & Electronics Engineering from a recognized Institution with 02 years experience in the field. 2. Should qualify the written professional test.

**AGE LIMIT**

Not exceeding **30 years**.

Relaxable for Govt. servants and ST candidates upto 05 years and for OBC 03 years in accordance with the instructions or orders issued by the Andaman & Nicobar Administration/Govt. of India on the subject.

**Note :-**

- Candidates who wish to be considered against vacancies reserved or seek age-relaxation must submit requisite certificate from the competent authority issued on or before the prescribed date, in the prescribed format whenever such certificates are sought by the Regional/Sub-Regional office. Otherwise, their claim for ST/OBC status will not be entertained and their candidature/applications will be considered under **General (UR)** category. Certificate for the status of Creamy Layer issued between 30.01.2014 and last date of application will be accepted.
- Candidates are warned that they will be permanently debarred from the examination conducted by the A&N Administration in case they fraudulently claim ST/OBC status.

**SELECTION PROCESS.**

Written Examination

**HOW TO APPLY:**

- (1) Application must be submitted in the prescribed format duly filled in all respects along with self attested copy of testimonials and two passport size photograph (One to be affixed on the application form and another to be attached with the application form (for admit card).
- (2) Departmental candidates must submit their application duly filled in all respect supporting with all necessary documents as asked for through proper channel only. Applications sent/submit directly from such candidates will summarily be rejected without intimation.
- (3) The candidates other than departmental candidates duly registered his/her name in the Local Employment Exchange as an un-employed must enter his registration number at the appropriate box of the application form and submit their application duly filled in all respect supporting with all necessary documents as asked for.
- (4) **Closing Date: Completed application in the “prescribed form” should be submitted/sent to the Assistant Director (Admn.), Electricity Department, Andaman and Nicobar Administration, Vidyut Bhawan, Port Blair – 744101 latest by 03:00 PM on 08-03-2018. Applications received after the closing date/time will not be entertained under any circumstances.**

- (5) Application Form can also be downloaded from the website [www.and.nic.in](http://www.and.nic.in). and [www.andaman.gov.in](http://www.andaman.gov.in)

**Note :-**

- Self attested copies of certificates are required to be submitted/sent along with the Application Form. The original certificates should not be attached with the Application in any circumstances.
- Unsigned application submitted without supporting documents as specified above shall be rejected without any intimation.
- In no case any extra/additional documents (other than the requisite documents as asked for) should be attached along with the Application Form.

**SCHEME OF EXAMINATION:**

**Written test : 200 Marks (Objective Types Multiple Choice)**

Sl. No.	Subject	No. of Questions	Max. Marks	Duration
1.	General Engineering (Electrical, Electrical & Electronics & Mechanical)	150	150	2 hrs.

**INDICATIVE SYLLABUS :**

**Electrical Engineering /Electrical & Electronics Engineering**

**Basic Electrical Engineering & Electrical Measurements:** Concept of currents, voltage, resistance power & energy, their units, ohm's law.

**Electro-Magnetic induction:** Self and mutual inductance.

**A.C. Fundamentals** Instantaneous peak, r.m.s. and average values of the alternating waves, Equation of sinusoidal wave form, simple series and parallel a.c. circuits consisting of R, I and Resonance.

**Measurement & Measuring Instruments.** Moving coil and moving iron ammeters and voltmeters. Extension of range, Watt-meters, Multimeters, Megger, Basic Electronics.

**Electrical Machines:** Basic principles of D.C.Motors of generators, their characteristics, speed control & Starting of D.C.Motors, losses & efficiency of D.C. Machines.

**1-Phase & 3 Phase Transformers:** Principles of operation, equivalent circuit, voltage regulation O.C. and S.C. tests, efficiency, auto transformers.

**Synchronous Machines:** Generation of three phase emf. Armature reaction, Voltage regulation, Parallel operation of two alternators, synchronizing, starting and applications of synchronous motors.

**3 Phase Induction Motor:** Rotating magnetic field, principle of operation, equivalent circuit, torque speed characteristic, starting & speed control of 3 phase induction motors, Fractional KW motors, 1-phase induction motors a.c, series motor, reluctance motors.

**General, Transmission & Distribution :** Different types of power stations, load factor, diversity factor, demand factor, simple problems thereon, 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 extinction by oil and air, HRC fuses, protection earthier leakage, over current Buchhotgz relay, Merzprince system of protection of generators & transformers, protection of feeders and bus bars.

### **Lightning Arrestors**

**Various transmission & distribution systems :** Comparison of conductor materials efficiency of different systems.

**Utilization of Electrical Energy:** Illumination, electric heating, Electric Welding, Electroplating, Electric Drivers & Motors.

### **Basic Electronics**

Electronics- Atomic structure of elements. The electron Energy of an electron valence electrons – Free electrons -Voltage source - Constant voltage source - Constant current source.

### **Electron Emission**

Electron emission, types of electron emission-Thermion emission – Thermionic emitter.

### **Transistors**

Transistor-Transistor action-Transistor symbols-Transistor as an amplifier.

### **Regulated D.C. Power Supply**

Ordinary D.C. Power supply, Regulated power supply. Types of voltage regulators - Zener diode voltage regulator.

### **Electronic Instruments**

Electronic instruments, Multi-meters, Applications of multi-meter sensitivity of multi-meter merits & demerits of multi-meter. Meter protection Vacuum tube voltmeter-applications of VTVM-merits and demerits of VTVM.

### **Semi Conductor Physics**

Semi conductor Bonds in semiconductor-commonly use semiconductors, energy band description of semiconductors-effect of temperature on semiconductor-intrinsic semiconductor-extrinsic semiconductor-properties of pn junction.

### **Semi Conductor Diode**

Semi conductor diode, Half wave rectifier-full wave rectifier, zener diode.

### **Solid State Switching Circuits**

Switching Circuit-Mechanical Switch Electronic Switch Advantages of Electronic Switches-Switching action of a transistor.

**Working Principle, Advantage & Application of field effect transistors.**

**Working Principle, Advantage & Application of Silicon Controlled Rectifier (SCR)**

**Working Principle, Advantages & Applications of Triac**

**Working Principle, Advantages & Application of Unijunction Transistor(UJT)**

## **Mechanical Engineering**

**Flow of Fluids:** Laminar & turbulent flow, equation of continuity, Bernoulli's theorem: measurement of discharge: flow through pipes friction losses. Forces of jet impinging on vanes, blades, work done and efficiency, classification of turbines & pumps.

**Thermal Engineering:** Laws of thermodynamics, change in entropy in various processes: properties of steam, uses of steam table & charts, construction & working of Cochran, Lancashire Locomotive & Babcock & Wilcox Boilers, Working of steam turbine, Otto & Diesel Cycles, working of IC Engines, Carburetion, Solex Carburetor, Diesel Fuel Pump & Injector: Cooling & Lubrication.

**Production Engineering:** Foundry different casting processes, concept of patterns, types of mould making, purging defect in castings, causes & remedies, welding –classification and types of welding, Testing & defects in welds, Lathes-working of lathes: various tools, operation on lathes, types of lathes, drilling operations performed on drilling machines.

**Description of Principles** of working and various operations on machines tools milling machine, Shaper, grinder, boring & slotting machines.

**Strength of Materials:** Stresses in composite bars, relation between elastic constants, Resilience under different types of loads, SF & BM Diagrams: Stresses in beams combined direct & bending stresses, struts & columns Euler's Rankin's theories, Torsion of circular shafts.

**Theory of Machines:** Simple Mechanisms –Four bar Chain, Slider crank chain, double slider crank chain, flywheel-Turning movement diagrams. Fluctuation of energy. Friction in collar and pivots, plane clutch, conical clutch, journal bearing, Transmission of power through flat and V-belts, Gears, profile of gears, Governors – types and working, cams and followers - types and cam profile.

**Applied Mechanics:** Concept of Mechanics, explanations, concept of rigid bodies, Law of forces, Bow's notation, types of forces, action and reaction, resultant and components of forces. Lamie's Theorem-concept of moments, varignon's theories, application of moments to simple mechanism, equilibrium of bodies under coplanar forces, friction, Concept, laws and limitations, center of gravity, centroid for regular lamina and center of gravity for regular solids, moments of inertia, Law of motion concept of machine, mechanical advantage conservation of momentum.

**Welding Soldering Brazing\_:** General characteristics of welded joints, principle of welding, types of welding process and their brief-gas welding and arc welding high pressure gas welding and low pressure gas welding and low pressure gas welding. DC welding & AC welding, selection of electrodes, fluxes, current torches and equipment, specification of tools, materials according to IS standard, principles of soldering and brazing types of solders & soldering fluxes, soldering fluxes, soldering tools and equipments, defects and remedies, brazing joints, brazing process, description of brazing tools, brazing filler alloys and fluxes, limitations and applications of soldering and brazing.

**Advance Welding and Technology :** TIG, MIG laser beams and thermal welding.

**Materials Science and Technology:** Importance of materials/Classification, atomic structure, crystal structure and imperfection, properties of materials, strength. ductility, malleability, toughness, resilience, stiffness, hardness stages of deformation, mechanical testing of material, tensile test, hardness test (Brinell HT & Rockwell H.T), impact test, ferrous and non-ferrous materials, insulating materials, fundamental of heat treatment, iron-carbon diagram, TTT curve.

**Mechanism :** Simple Mechanism, Kinematics links, pairs, chain for bar chain, cams types and followers will classification, loss of friction between dry surface, coefficient of friction power absorbed in friction for pivot bearings (flat, collar, conical) power transmission, types of belts, material and specification.

**Refrigeration:** Meaning, methods units, reversed carnot cycle heat pump, refrigerating systems, refrigerants, system, components and control psychrometry - dry and wet bulb temperature, saturation, dew point.

**Metrology:** Types of measurements, linear angular, gear tooth vernier, surface measurements, precision and accuracy, inspection and quality control surface finish.

Assistant Director (Admn.)  
Electricity Department

**APPLICATION FOR THE POST OF JUNIOR ENGINEER  
IN ELECTRICITY DEPARTMENT, A&N ADMINISTRATION**

Affix Recent  
Passport size  
photograph

To  
The Assistant Director (Admn.),  
Electricity Department,  
Port Blair.

1.	Name of Applicant (in BLOCK LETTERS)			
2.	Father's Name			
3.	Date of Birth (as recorded in the Matriculation/Secondary Examination Certificate - Enclose self attested copy of certificate)	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
		Date	Month	Year
4.	Age as on <b>08-03-2018</b> (i.e. last date of receipt of application)	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	
		Year	Month	
5.	Gender	<input type="checkbox"/>	<input type="checkbox"/>	(Tick) <input checked="" type="checkbox"/>
		Male	Female	
6.	Marital Status	<input type="checkbox"/>	<input type="checkbox"/>	(Tick) <input checked="" type="checkbox"/>
		Married	Unmarried	
7.	Nationality			
8.	Aadhaar Number			
9.	Educational Qualification (enclose self attested photocopy of certificates in proof)			
10.	Category (Attach self attested copy of reservation certificate for ST/OBC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (Tick) <input checked="" type="checkbox"/>
		General	ST	OBC
11.	Employment Exchange Regn. No.			
12.	Permanent Address			
13.	Address for Communication with Phone/Mobile Number			
14.	Experience in Registered establishment, if so, give details with proof.			

**DECLARATION**

I do hereby declare that all the statements made in the application are true, complete and correct to the best of my knowledge and belief. I understand that in the event of any information being found false or incorrect or ineligibility being detected before or after the examination, my candidature/appointment is liable to be cancelled. I am aware that if I contravene this declaration, my application may be rejected summarily by the department.

I have read the provisions in the Notice of the department carefully and I hereby undertake to abide by them.

I further declare that I fulfill all the conditions of eligibility regard age limit, educational qualification etc. prescribed for appointment to the post.

Place :

Date :

**Signature of the applicant**

**List of enclosures –**

- |    |    |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

**NOTE I** - Application received without signature of the candidate shall be rejected.

**NOTE II** - Candidates are advised to submit the application in person/by post well before the closing date so that it reaches the Assistant Director (Admn.), Electricity Department, Vidyut Bhawan, Port Blair – 744101 by closing date. No application received after the closing date will be accepted under any circumstances.

**NOTE III** - Candidates should not attach any original certificate in support of their educational qualifications, age etc. alongwith this application.

**NOTE IV** - Please write name of candidate on back side of one additional photograph to be submitted.

