



Council of Scientific & Industrial Research
NATIONAL AEROSPACE LABORATORIES
P. B. No.1779, HAL Airport Road, Kodihalli, Bengaluru-560 017

ADVT. NO. 3/2019

APPLY ONLINE ON OR BEFORE 16th September 2019

(NAL Website: www.nal.res.in)

CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru, is a premier Research Laboratory under Council of Scientific & Industrial Research (CSIR), an Autonomous Body in the Ministry of Science & Technology under the Government of India. In addition to many Research, Development and Technology Programmes in Aerospace, NAL is actively involved in supporting the National Aerospace Programmes of ADA, DRDO, ISRO, HAL and IAF etc. NAL is also exploiting several aerospace technologies into spin-off industrial applications. It has excellent facilities in all the aerospace disciplines.

CSIR-NAL is looking for bright, talented, qualified professionals having brilliant academic record, high level of motivation and zeal for innovative research as Scientists to participate in the exciting task of Aerospace R&D, Technology Development and related applications. Experience and proven qualities of scientific / technical leadership are also required.

CSIR-NAL invites online applications for Principal Scientists and Senior Principal Scientists in various disciplines in the area of Design, Development, Testing & Evaluation of various Systems / Sub-systems and Project Management. Details of the posts, no. of posts, Pay Matrix, essential/desired educational qualifications, experience etc. are given below:

Please go through the full text of the advertisement on our website: www.nal.res.in regarding Qualifications, Field of Specialization, Experience and Job Requirements etc. required for each position.

Online applications includes uploading of all documents including payment of application fee wherever applicable and uploading of copies of certificates and testimonials etc. To apply you must fill in our specially designed electronic application form available on our website www.nal.res.in.

Please fill the Electronic Online Application Form carefully, uploading all the required documents. Then, take a print out of the duly filled application, enclose all the testimonials, certificates etc. and send the same by post addressed to the Director, CSIR-National Aerospace Laboratories, P.B.No.1779, HAL Airport Road, Kodihalli, Bengaluru-560 017. The complete application with all the documents should reach CSIR-NAL by 25.09.2019.

I PRINCIPAL SCIENTIST (5 POSTS):

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|-----------------------------|---------------------------------|
| 1. Age Limit | : 37 years |
| 2. Pay Scale as per VII CPC | : ₹ 78,800/- |
| 3. Level in the Pay Matrix | : Level 12 |
| 4. Gross Total Emoluments | : 1,15,000/- PM (approximately) |

1. POST CODE: PS-101 :

Minimum Educational Qualification: Ph.D (Engineering) – Mechanical / Aerospace / Aeronautical or equivalent.

Experience: Minimum 3 years experience in one or more of the following area:

- (a) Design, Development and testing of High temperature Pneumatic valves of ECS and valves of Hydraulic and Fuel system for Combat / Transport Aircraft.
- (b) Design of Solenoid Valves / Non-return valves / Relief Valves / Pressure Regulators, Flow throttling Valves / Two way-three way command valves and integrated hydraulic and pneumatic modules / systems; re-evaluation, testing and delivery of Aircraft components.
- (c) Requirements of Military, Aerospace and Naval standards, Design and development process, type testing and executing the job collaboratively with various Government Agencies.

Desirable: Experience in – CAD (CATIA V.5) / Unigraphics etc. with analysis background; Electro-mechanical systems and simulation techniques

2. POST CODE: PS-102 :

Minimum Educational Qualification: Ph.D (Engineering) – Electronics & Communication / Electrical / Computer Science / I.T or equivalent.

Experience: Minimum 3 years experience in one or more of the following areas:

- (a) Certification of airborne Embedded systems such as navigation system, Mission Computing system, Electrical / Electronics, Flight Control System, Displays, Utility Management System, sensors and electrical system for aircraft.
- (b) Electrical system design, testing & certification for aircraft applications.
- (c) Military / Civil standards for air worthiness certification.
- (d) Certification methodologies such as qualification procedure, acceptance procedures, screening process, manufacturing process, drawing drafting procedures, Environment stress screening, HALT & HASS screening methods, use of DO-254, DO-2167, IEE 12207; Software & Hardware life cycle process; Test rig & integration rig design and certification; ATE design.

3. POST CODE: PS-103 :

Minimum Educational Qualification: Ph.D (Engineering) – Computer Science or equivalent.

Experience: Minimum 3 years experience in one or more of the following areas:

- (a) Design and Development of software for aircraft systems.
- (b) Certification of airborne and ground based systems.
- (c) Software development using DO-178B.

Desirable: Exposure to complete system (Hardware & Software) development process cycle for Avionics systems.

4. POST CODE: PS-104 :

Minimum Educational Qualification: Ph.D (Engineering) – Aeronautical / Aerospace / Mechanical or equivalent.

Experience: Minimum 3 years experience in one or more of the following areas:

- (a) Aerodynamic design
- (b) Aerodynamic analysis
- (c) Grid generation and CFD studies
- (d) Wind tunnel testing

(e) Aircraft performance analysis and flight performance evaluation.

5. POST CODE: PS-105 :

Minimum Educational Qualification: Ph.D (Engineering) – Computer Science / Electronics & Communication / Aerospace / Electrical or equivalent.

Experience: Minimum 3 years experience in one or more of the following areas:

- (a) Development of Test Rigs and Simulators.
- (b) Developing / assembling and using Avionics Test Engineers System
- (c) Sensor System Simulation
- (d) Certification of Test Jigs for CEMILAC / DGAQA.

II SENIOR PRINCIPAL SCIENTIST (6 POSTS):

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|-----------------------------|---------------------------------|
| 1. Age Limit | : 50 years |
| 2. Pay Scale as per VII CPC | : ₹ 1,31,100/- |
| 3. Level in the Pay Matrix | : Level 13-A |
| 4. Gross Total Emoluments | : 1,86,000/- PM (approximately) |

1. POST CODE: SPS-201 :

Minimum Educational Qualification: Ph.D (Engineering) – Mechanical / Aerospace / Aeronautical or equivalent.

Experience: Minimum 6 years experience in one or more of the following areas:

- (a) Design & Development of Hydraulic system and its associated Mechanical LRUs of Civil / Combat Aircraft.
- (b) Design components meeting the requirements of Military, Aerospace and Naval standards.
- (c) Mechanical aircraft components and systems with sound knowledge of Landing Gear, Brakes & Hydraulic systems and Design of Hydraulic LRUs.
- (d) Design, Engineering principles, product development and type testing in the field of aircraft hydraulics; design and development process, type testing and executing the job in collaboration with various Government agencies.

Desirable: Experience in analyzing Reliability, Maintainability and Safety of Aircraft Hydraulic systems (Landing Gear, Brakes etc.).

2. POST CODE: SPS-202 :

Minimum Educational Qualification: Ph.D (Engineering) – Mechanical / Production / Industrial or equivalent.

Experience: Minimum 6 years experience in one or more of the following areas:

- a) Engineering drawings, tolerance stack up analysis, tool design concepts, design of jigs, design of fixtures and templates at component level, design of interchangeability (ICY) media / Master Tooling Gauges.
- b) Manufacture and Jig setting of tooling elements, first off proving of jigs / Tools / Fixtures / Drilling templates, use of optical instruments / Laser tracker for tool setting and calibration of tools.
- c) CAD package viz., CATIA / UG / Pro-E for tool design activities.
- d) Production aircraft drawings, ToT drawings for aircraft.

Desirable: Digital manufacturing; Experience in Aircraft industry.

3. POST CODE: SPS-203 :

Minimum Educational Qualification: Ph.D (Engineering) – Aeronautical / Aerospace / Mechanical or equivalent.

Experience: Minimum 6 years experience in Aircraft Design, Aerodynamic analysis and multi-disciplinary design optimization.

Desirable: Experience in one or more of the following

- a) Standard MDO frame works such as iSIGHT and Mode Frontier, etc.
- b) CFD codes, including post-processing and pre-processing
- c) Aircraft Preliminary Design packages such as RDS, FLOPS and ACSYNTH, etc.
- d) Aircraft structural analysis software including FEM analysis.

4. POST CODE: SPS-204 :

Minimum Educational Qualification: Ph.D (Engineering) – Mechanical / Instrumentation / Aeronautical / Controls / Aerospace Engineering or equivalent.

Experience: Minimum 6 years experience in Flight Mechanics & Control Systems applicable to aircraft in the following areas:

- (a) Control System Component Sizing
- (b) Autopilot
- (c) Control loop design & synthesis
- (d) Hands on experience on Control System tools like MATWORKS, SIMULINK etc.

5. POST CODE: SPS-205 :

Minimum Educational Qualification: Ph.D (Management) or equivalent.

Experience: Minimum 6 years experience in Programme Management of large projects, knowledge of financial transaction, Government taxation policies etc., knowledge in preparation of technical project reports.

6. POST CODE: SPS-206 :

Minimum Educational Qualification: Ph.D Degree in Engineering / Technology (any branch) or equivalent from a recognized university and Qualified Flight Test Engineer Course in Fixed Wing Aircraft.

Experience:

A minimum 6 years of experience as a Flight Test Engineer in Indian Air Force/ Indian Navy / Aeronautics Organizations / Public Sector Undertaking on flight testing of Civil/Military Transport Aircraft.

Apart from the above, the candidature should have practical knowledge on:

- (i) Flight testing of aircraft performance on fixed wing aircrafts.
- (ii) Flight control systems, Avionics & Transport Aircraft Systems
- (iii) Aircraft structures and modern aircraft systems
- (iv) Flight test planning & execution
- (v) Flight test data analysis
- (vi) Military & Civil Certification

Weightage will be given to candidates depending on the type and amount of:

- (i) Flight trials conducted as Lead FTE and;
- (ii) Flying experience on flight test duties over fixed wing aircraft.

Medical Category: A1G1 in Indian Air Force or its equivalent in Indian Navy and should be fit for flying in aircraft. The FTE employees will be referred to Institute of Aerospace Medicine(IAM), Bangalore for periodic medical fitness check-up as carried out while in service as per rules.

I. Benefits:

1. These posts carry usual allowance i.e., Dearness Allowance (DA), House Rent Allowance (HRA), Transport Allowance (TA) etc. as admissible to the Central Government employees and as made applicable to CSIR. Council employees are also eligible for accommodation of their entitled type as per CSIR Allotment Rules depending upon the availability in which case HRA will not be admissible.
2. Exceptionally meritorious and deserving candidates may be considered for higher initial pay by the Competent Authority as per CSIR Rules.
3. In addition to the emoluments indicated against each category of posts, benefits such as reimbursement of Medical Expenses, Leave Travel Concession, Conveyance Advance and House Building Advance are available as per Rules of CSIR.
4. All Scientists are entitled for Career Advancement on the basis of Flexible Complementary Scheme of CSIR.
5. All new entrants will be governed by the "New Pension Scheme" based on defined Contributions for new entrants recruited in Central Government Services on or after 1-1-2004, as adopted by CSIR for its employees. However, candidates selected from other Government Departments / Autonomous Bodies / Public Sector Undertakings / Central Universities having Pension Scheme on GoI. pattern will continue to be governed by the existing Pension Scheme i.e. CCS (Pension) Rules, 1972.
6. Scientists in CSIR-NAL are also permitted to undertake consultancy and sponsored R & D Project activity. These activities give them scope to earn consultancy fee and honorarium as per CSIR guidelines governing these activities. Opportunities are also available for foreign deputations for training/presentations of papers/specific assignments etc.

II. AGE LIMIT AND RELAXATIONS:

1. The date for determining the upper age limit, qualifications and/or experience shall be the closing date prescribed for receipt of Online Electronics Application form **i.e. last date of applying online application**
2. Upper age limit is relaxable upto 5 years for the regular employees working in CSIR Laboratories / Institutes, Government Departments, Autonomous Bodies and Public Sector Undertakings.
3. Relaxation in the upper age limit of 5 years applicable for persons who had ordinarily been domiciled in the Jammu and Kashmir State during the period 1-1-1980 to 31-12-1989 subject to production of a certificate from the District Magistrate in the J&K Division within whose jurisdiction he/she had ordinarily resided or from any other authority designated in this behalf by the Government of J&K to the effect that he/she had ordinarily been domiciled in Jammu and Kashmir State during the period from 1-1-1980 to 31-12-1989.
4. For Widows, Divorced Women and women judicially separated from husbands, the upper age limit is relaxable as per GOI provisions.
 - i) In case of widow, Death Certificate of her husband together with the Affidavit that she has not remarried since.
 - ii) In case of divorced women and women judicially separated from their husbands, a certified copy of the judgment/decreed of the appropriate Court to prove the fact of the divorce or the judicial separation, as the case may be, with an Affidavit in respect of divorced women and they have not remarried since.
5. Marginal relaxation in age limit and/or experience may be allowed in the case of exceptionally

meritorious candidates at the discretion of the Competent Authority.

III. **GENERAL CONDITIONS:**

1. These positions are open only to Indian Nationals/Overseas citizens of India.
2. The appointment will be in the CSIR National Aerospace Laboratories (NAL), Bengaluru, under the Council of Scientific & Industrial Research (CSIR) which is an Autonomous Body. However, the appointees are liable to be posted in any of the Labs/Institutes of CSIR situated anywhere in India as and when required.
3. A Non-refundable application fee of Rs.100/- (Rupees One Hundred only) is payable separately for each post (candidates belonging to SC/ST/PWD, Women and regular employees of CSIR are exempted from payment of application fee) in the form of Online payment.
4. Candidates applying for more than one post should submit separate online application form for each post indicating the category and post code along with the prescribed application fee and copies of all marks cards, certificates and testimonials separately for each post.
5. The period of experience in a discipline/area of work, where prescribed, shall be counted with effect from the date of acquiring the prescribed minimum educational qualifications for the post.
6. In respect of equivalent clause in educational qualifications, if a candidate is claiming a particular qualification as equivalent as per the requirement of the advertisement, then the candidate is required to produce order/letter in this regard, indicating the authority (with number and date) under which it has been so treated. Otherwise, the application is liable to be rejected.
7. If any document/certificate furnished is in a language other than Hindi or English, a transcript of the same duly attested by a Gazetted Officer or Notary is to be submitted.
8. Application from the candidates working in CSIR, Govt. Departments and Public Sector Undertakings will be considered only if forwarded through proper channel within 15 days from the closing date prescribed for receipt of online applications and with a clear certificate that the applicant will be relieved within one month of receipt of appointment order, if selected.
9. In case a shortlisted candidate is staying abroad, his/her candidature may be considered in absentia by the Selection Committee on his/her written request.
10. The application once made will not be allowed to be withdrawn and fees once paid will not be refunded on any count nor can it be held in reserve for any other recruitment or selection process.
11. Incomplete applications (i.e., without photograph, unsigned or without application fee, applicable testimonials, etc.) will not be entertained and will be summarily rejected.
12. Online Electronics Application Form not uploaded with (i) photograph of the applicant; (ii) Signature of the candidate (iii) prescribed application fee; (iv) Xerox copies of Marks Card / Certificates for all the semesters/years from degree level onwards; (v) Proof regarding date of birth & age and incomplete applications will be outrightly rejected.
13. Mere fulfilling of minimum prescribed qualifications and experience will not vest any right in a candidate for being called for Test/Interview.
14. In the event of the applications received in large numbers, the Screening Committee of CSIR-NAL will adopt its own shortlisting criteria to restrict the number of candidates to be called for interview/ written test to a reasonable number by any or more of the following methods:
 - i. On the basis of higher educational qualifications than the minimum prescribed in the advertisement.
 - ii. On the basis of higher experience in the relevant field than the minimum prescribed in the

- advertisement.
- iii. By holding a Interview/ written test.
- iv. Any other methodology as deemed fit by the Screening Committee.

The Laboratory reserves the right to call for Interview/Test to only those candidates who in its opinion are likely to be suitable and will not entertain any correspondence in this regard.

15. Only outstation candidates (within India) called for Interview will be reimbursed Travelling Allowance (TA) as admissible under rules i.e. a single Second Class Railway Fare (by Mail or Express) each way from their normal place of residence or from the place of undertaking the journey, whichever is nearer to Bengaluru on production of proof of journey. For road journeys between stations not connected by rail, the actual bus fare or road mileage at the lowest rate as admissible under rules, will be reimbursed, on production of documentary proof (bus tickets) and provided that the distance covered by road is more than 20 kms each way.
16. CSIR-NAL reserves the right not to fill up a particular post or all the posts, if it so desires. The number of vacancies indicated above may vary at the time of actual selection.
17. The selected candidates will be on probation for a period of one year from the date of taking over charge of the post. The probationary period may be extended or curtailed at the discretion of the Competent Authority. After successful completion of probationary period, they will be considered for confirmation in accordance with the extant rules.
18. The selected candidates will not be permitted to apply for appointment elsewhere or in CSIR-NAL during the probationary period and if they have already applied for any posts in any other organization, they may have to intimate the details of such applications, immediately after joining the Laboratory.
19. As the Screening/Shortlisting of applications will be done on the basis of information furnished through the Online application form by the applicants, it is necessary that only accurate, full and correct information is furnished by the applicants. Furnishing of wrong/false information will be a disqualification and CSIR-NAL will **NOT** be responsible for any of the consequences of furnishing such wrong/false information. Candidates may register online immediately on seeing the advertisement to avoid last day rush/disappointment.
20. The decision of CSIR-NAL in all matters relating to eligibility, acceptance or rejection of applications, mode of selection, conduct of interview/written test will be final and no enquiry or correspondence will be entertained in this connection from any individual or agency on behalf of the candidate.
21. Canvassing in any form and/or bringing in any influence political or otherwise will be treated as a disqualification for the post.

INTERIM ENQUIRIES WILL NOT BE ENTERTAINED.