HUMAN RESOURCE DIVISION
PRODUCT DEVELOPMENT & INNOVATION CENTRE

Bharat Electronics Limited (BEL) a Navaratna Company and a premier Professional Electronics Company under the Ministry of Defence, requires the following personnel **on contract basis** for its Product Development & Innovation Centre at Bangalore.

Sl. No.	Post	No. of Posts	Qualification	Minimum post Qualification Experience As on 01.01.2021	Upper Age limit As on 01.01.2021	Reservation	Consolidated remuneration per Month
1	Project Engineer -I	Electronics-10 Mechanical-6 Computer Science-2 Total -18 posts	B.E./ B. Tech/ B.Sc Engineering degree in relevant discipline from reputed University / Institution / College with First Class for General/OBC/EWS candidates & pass Class for SC/ST/PWD Candidates.	Minimum 02 years of relevant industrial post qualification experience	28 Years	GEN-9 OBC-5 EWS-2 SC-3 ST-1	1st Year- Rs. 35,000/- 2nd Year- Rs. 40,000/- 3rd Year - Rs. 45,000/- 4th Year - Rs. 50,000
	Project Engineer -I (Optics)	Electro-optics/ Photonics Total -2 posts	M.Sc (Electro-optics/Photonics) from reputed University / Institution/ College with First Class for General/OBC/EWS candidates & pass Class for SC/ST/PWD Candidates.				
2	Trainee Engineer-I	Electronics-17 Mechanical – 7 Computer Science-5 Electrical – 2 Mechatronics – 2 Total -33 posts	B.E./ B. Tech / B.Sc Engineering degree in relevant discipline from reputed University / Institution/ College with First Class for General/OBC/EWS candidates & pass Class for SC/ST/PWD Candidates.	Minimum 06 Months of relevant industrial post qualification experience	25 Years	GEN-16 OBC-8 EWS-3 SC-4 ST-2	1st Year- Rs. 25,000/- 2nd Year- Rs. 28,000/- 3rd Year - Rs. 31,000/-

1.0 TERMS OF ENGAGEMENT & ALLOWANCE:

a. Project Engineers –I:
Project Engineers will be engaged for an initial period of 2 years which may be extended upto a maximum of 04 years (including initial period) based on project requirement and individual performance. Candidates will be paid a consolidated remuneration of Rs. 35,000/- per month for the 1st year and Rs. 40,000/- for 2nd year. In the event of extension of contract, the remuneration shall be Rs. 45,000/- for 3rd year and Rs. 50,000/- for 4th year.

b. Trainee Engineer – I:
Trainee Engineers will be engaged for an initial period of 01year and may be extended upto a maximum of 03 years (including initial period) based on project requirement and individual performance. Candidates will be paid consolidated remuneration of Rs. 25,000/- per month for the 1st year and in the event of extension of contract, the remuneration shall be Rs. 28,000/- for 2nd year and Rs. 31,000/- for 3rd year per month.

c. In addition to the remuneration indicated, a consolidated amount of Rs. 10,000/- per year will be paid towards expenses like medical insurance premium, attire allowance, stitching charges, footwear allowance, etc.

2.0 <u>**Upper Age limit as on 01.01.2021:**</u>

a. Project Engineers- I:

The age should not be more than 28 years for General & EWS candidates. The upper age limit will be relaxable for OBC candidates by 03 years and SC, ST candidates by 05 years. For candidates belonging to PWD category having minimum 40% disability or more will get 10 years' relaxation in addition to the relaxation applicable to the categories mentioned above.

b. Trainee Engineer - I:

The age should not be more than 25 years for General & EWS candidates. The upper age limit will be relaxable for OBC candidates by 03 years and SC, ST Candidates by 05 years. For Candidates belonging to PWD category having minimum 40% disability or more will get 10 years' relaxation in addition to the relaxation applicable to the categories mentioned above.

c. SSLC/SSC/ISC mark card and any other valid document as proof of date of birth.

Please Note:

a. Candidates seeking age relaxation will be required to enclose copy of necessary certificate along with application and submit in original in case of selection or provide at any subsequent stage of the process for verification.

a. The EWS / Caste / Disability Certificate should be strictly in the format available on the BEL website failing which, candidates will be considered under 'General' category, provided they are otherwise meeting all other criteria stipulated for General Candidates.

b. The application of the candidates not meeting the prescribed age criteria will be rejected / cancelled without any prior intimation.

c. Candidates belonging to OBC category (Non creamy layer) should produce the certificate issued on or after 01.01.2020

3.0 EDUCATION QUALIFICATION:

a. **(i) Project Engineers - I: Electronics / Mechanical / Computer Science Engineering discipline**
   B.E./ B. Tech/ B.Sc Engineering degree in relevant discipline from reputed University / Institution / College.

   (ii) Project Engineers – I (Optics): Electro-optics/ Photonics discipline
   M.Sc in Electro-optics/Photonics from reputed University / Institution/ College.

b. **Trainee Engineers- I: Electronics/Mechanical/Computer Science/Electrical/Mechatronics Engineering discipline**
   B.E./ B. Tech / B.Sc Engineering degree in relevant discipline from reputed University / Institution/ College.

The Disciplines and subjects defined for the Engineering posts mentioned above are as follows:

SUBJECT	DISCIPLINE
Electronics	Electronics
	Electronics & Communication
	Electronics & Telecommunication
	Communication
	Telecommunication
Mechanical	Mechanical Engineering
Computer Science	Computer Science
	Computer Science & Engineering
	Computer Science Engineering.
Electrical	Electrical & Electronics Engineering
	Electrical Engineering.
Electro-optics/Photonics	Electro-optics/Photonics
Mechatronics	Mechatronics Engineering

Please Note:

    a. For all the posts indicated, the candidates should have qualified from AICTE/UGC approved college/Institute or recognized University.

    b. Candidates applying for the above indicated posts should possess 1st class for General/OBC/EWS and Pass Class for SC/ST/PWD.

    c. Candidates have to compulsorily attach the Provisional /Final Degree Certificate as proof of completion of Degree and indication of Class and percentage of marks.

    d. In case any University/Institution or college is following an evaluation system of CGPA/DGPA/OGPA or letter grade, wherever applicable, it is mandatory for the candidate to submit proof of Percentage (%) issued by university/Institution/College and awarded class along with the degree certificate.

    e. In case there is no mention of specialization in the qualifying degree as required in the minimum essential educational qualification candidates are required to submit a certificate from their University/Institution or college which indicates their specialization in qualifying degree.

    f. Candidates application without the relevant prescribed documents mentioned will be rejected / cancelled without any prior intimation.

4.0 POST QUALIFICATION EXPERIENCE AS ON 01.01.2021:

Candidates should have minimum of **'Two years'** of relevant post qualification industry experience to apply for the post of **Project Engineer-I** and **'Six months'** of relevant post qualification industry experience to apply for the post of **Trainee Engineer-I.**

Candidates with experience in any of the following areas will be preferred:

Electronics:

Engineer with experience in design & development in related projects/products with competencies in some of the following areas:

Embedded Product Design: Candidates should have Knowledge in Embedded Systems 16/32/64 bit X86/RISC/ARM/DSP Processor, Digital Signal Processing, FPGA, HDL (VHDL or Verilog) with

a) Hands-on experience in Device Driver Development in Windows/Linux/VXWorks operating systems with good knowledge in Debugging tools & emulators.
b) Hands-on experience in BSP development for ARM, PowerPC, x86, DSP, microcontroller architectures.
c) Hands-on experience in kernel programming like Memory Mgmt, Threads/Processes, IPCs, Synchronization, Interrupts, Boot Sequence etc. will be an added advantage.
d) Hands-on experience in IOT related projects and driver development for various types of buses & external Interfaces (VPX, PCIe, 1553, ARINC…). Working Knowledge in FPGA based SoC will an added advantage.

Communication Product Design:

a) Knowledge required in Technologies like Networking Protocols, SIP protocols, Voice Media processing (Audio, Video Codec), Software Defined Networks, Wireless Networking Protocols, 4G, 5G, IP Multi Media Services (IMS), Digital Modulations, satellite communications.
b) Hands on experience in SOC/FPGA based board Design (Board bring up, Coding, Device drivers), VHDL, C, C++, Embedded Linux, ARM based design, High speed Transceivers, Memories (DDR3,DDR4,QDR), Ethernet (1G/10G,100G), PCIe, High speed ADC/DAC, Matlab, DSP.

Mechanical:

Candidate should have hands-on experience in product engineering/product design of AFC Gates, Masts, EMP Shelters, Stabilization systems, etc. Exposure/experience to Military Standards, part/assembly modeling using 3D modeling tools, thermal and structural analysis, Reliability Engineering and DFSS will be preferred.

Computer Science:

Candidate should have experience in Driver development in ARM based Micro-controller. BSP & Device driver development in Linux Operating System or any RTOS and Porting to custom hardware, Development of APK's (Android Application) using the Android Studio
Language: C,C++,JAVA 2,J2EE, Javascript, CSS, HTML, python,
IDE: Qt, NetBeans, Eclipse, Visual Studio code, Spring too suite
Framework: Angular JS, React JS, Spring, Hibernate, Spring boot
Domain Experience: Front End Development, Backend development, Full stack development

AI, Machine Learning algorithms, Neural Networks, Robotics Automation

Electro-optics/Photonics:

Candidate should have experience in:

a. Design, development & testing of EO products for Ground based, Navel and Airborne platforms or Defence & Paramilitary customers.
b. Knowledge/understanding of ZEMAX/ CodeV /Trace Pro software design and simulation.
c. Experience in design and testing of Lens based as well as mirror based EO Systems.
d. Understanding of Opto-mechanical design.
e. Experience in design and development of Laser based systems for Defence applications
f. Understanding of Fibre Laser design and testing
g. Experience in handling Laser based senors
h. Knowledge/understanding of ZEMAX / CodeV/Trace Pro software for design and simulation.

Mechatronics:

Candidate should have hands-on experience in design and development of unmanned ground/aerial vehicles, motor/encoder selection, various drive mechanisms, Gimbals & control systems.

Electrical:

The candidate shall have post qualification experience in design and development of related projects/products with the following relevant areas:

a. Knowledge in power electronics fundamentals, including basic power conversion topologies for AC/DC, DC/DC converters and Power factor correction.
b. Hands on experience in modeling and simulation power converters and Working knowledge in simulation tools like Matlab/Simulink/PSPICE/PSIM.
c. Hands on experience in PCB design tools like Allegro/PADS/Altium etc. and strong understanding of power electronics PCB layout.
d. Hands on experience in design and development of power electronics products like Battery Chargers, AC-DC converters, DC-DC Converters.
e. Strong understanding of power electronics components like MOSFET, IGBT, Diode etc. and their switching circuits, Snubber circuits, gate drive circuits, protection circuits, loss calculation and thermal design.
f. Hands on experience in design and selection of magnetics for SMPS
g. Design and development of digital and analog electronics for power converter, voltage/current sensing and signal conditioning, Opamp based circuits etc..
h. Knowledge of basic control theory and experience with embedded programming.

Please Note:

    a. Candidates possessing Industrial experience only need to apply.

    b. Academy/Teaching/Research work experience will not be considered as relevant industrial experience.

    c. Candidate should possess Experience certificates/Documents issued by the previous and present employer clearly indicating period of employment and post held.

    d. The decision of the Selection Committee with respect to industrial experience will be final. Work experience indicated without supporting documents will not be considered and is liable to be rejected / cancelled without any prior intimation.

5.0 SELECTION PROCEDURE:

    a. Candidates should meet the eligibility criteria as specified in the advertisement. Candidates who meets the eligible criteria with respect to relevant qualification, Post Qualification experience will be allotted weightage as follows:

Criteria	Weightage
Aggregate marks scored in their relevant degree qualification	75%
Relevant Post Qualification Experience: 2.5 marks for minimum stipulated post qualification experience and additional 1.25 marks for every additional 6 months of relevant experience, up to maximum of 10 marks.	10%
Interview for Shortlisted candidates	15%

    b. Candidates will be shortlisted for the interviews based on the above criteria (out of 85 marks), in the ratio of 1:5.

    c. Intimation on conducting video based interviews will be sent to E-mail ID provided by the candidate. Candidates are required to comply with the instructions indicated therein. The results of the final selection will be available on BEL website.

Please Note:

    a. Candidates have to carefully enter in the details in the application and attach the documents as prescribed. In case, the details mentioned do not tally with the supporting documents, the candidate application will be rejected without any prior intimation.

6.0 HOW TO APPLY:

Candidates who are desirous of applying for the above posts indicated in the advertisement may apply online by clicking the link provided against the advertisement and click on *https://register.cbtexams.in/BEL/TraineeEngg/* The last date to submit online application is **17.02.2021**.

    a. Candidates are required to read all the instructions given in the advertisement and enter all information correctly in the online application form and verify the same before submission, as changes shall not be permitted after submission of the application form.

    b. In case a candidate submits more than one application for the same post, the application against which bank challan is deposited shall only be considered. Further, if a candidate deposit bank challan for two applications for the same posts, the application with the latest registration number shall only be considered.

7.0 APPLICATION FEES:

Post	Application Fee	Exemption
Trainee Engineer	Rs. 200/-	Candidates belonging to SC/ST & PWD, categories are exempted from payment of application fee.
Project Engineer	Rs. 500/-	

a. The application fee should be remitted through SBI Collect (through online). Candidates are requested to read the details ad screenshots for making the payment.

b. Candidates can also make the payment by approaching SBI branch. You have to select SBI Branch in the payment option and download Pre-printed challan generated through SBI Collect and deposit the application fee (as applicable) plus applicable bank charges in any SBI Branch. The candidate should ensure to obtain the seal and signature of the bank official.

c. General candidates have to enter the **"SBI Collect Reference No."** generated after payment, in the Online Application Form before proceeding to fill the other details in the Application Form before proceeding to fill the other details in the Application form. **SC/ST/PWD candidates are exempted from payment of application fee.**

d. Candidates may go through all instructions and eligibility criteria carefully before remitting Application. Fee and submitting the application. **Fee once paid will not be refunded.**

e. In case a candidate applies for both posts, Trainee Engineer and Project Engineer the application fee should be remitted separately for each post.

8.0 DOCUMENTS TO BE SUBMITTED BY CANDIDATES WHILE SUBMITTING ONLINE APPLICATION:
a. Passport size photo
b. SSLC/SSC/ISC marks card or any other valid document as proof of date of birth.
c. Final degree/Provisional Degree Certificate of relevant qualification
d. Proof of norms for CGPA/DGPA/OGPA or letter grade/document for percentage/class issued by university/Institution/College
e. Caste/Tribe/Community/Disability/Economic status certificate in case of candidates belonging to SC/ST/OBC/PWD/EWS respectively. Candidates claiming reservation under any of the above categories are required to submit the certificate in the prescribed format. The formats of various certificates are provided as link to the advertisement. Candidates belonging to OBC category should produce the certificate issued on or after 01.01.2020 and for EWS Certificate issued for the year 2019-2020 or 2020-21
f. Post qualification work experience certificate/s from previous / current employer.
g. Candidates employed on permanent/Fixed term basis in Government / Quasi Government and Public Sectors undertaking should compulsorily submit the **'No Objection Certificate'** along with the application.
h. Candidates employed on temporary basis in Government/ Quasi Government and Public Sectors undertaking should compulsorily submit Offer of Appointment and latest payslip.

9.0 GENERAL:
a. Only India nationals can apply for the posts.
b. The number of posts indicated above, may vary based on the actual requirement at the time of selection. Application data incomplete, not in prescribed format, without assigning any reason and no correspondence in this regard will be entertained. There will be no separate communication to any candidates on their non-selection at any stage.
c. Candidates are advised to carefully read the full advertisement for details of eligibility criteria and selection modalities before submission of application.

d. The candidates should be willing to travel extensively across the country based on the project requirement. Candidates may be posted anywhere in India at any point of time. Hence, Candidates who are desirous of applying for the posts should be willing to relocate based on the project requirement across India.

e. Application of the candidate without fee payment (Except for SC/ST/PWD), will be rejected/cancelled without any prior intimation.

f. All information submitted in the application will be verified with the original documents at the time of document verification or at the stage of the recruitment process. If any documents/information provided by the candidate is found to be false or incorrect or Non-conformity with the eligibility criteria, then his/her candidature is liable to be rejected/cancelled at any stage of the recruitment and selection process without any prior intimation.

g. Candidature is liable to be rejected at any stage of recruitment / eligibility / selection process or after joining, if any information provided by the candidate is not found in conformity with criteria mentioned in the advertisement. The candidature is also liable for rejection at any stage if BEL comes across any evidence/knowledge that the qualification, experience and any other particulars indicated in the application / other forms / formats are not recognized / false / misleading and/or amounts to suppression of information/particulars, which should have been brought to the notice of BEL.

h. There will be no separate communication to any candidates on their non-selection at any stage.

i. Mere submission of application does not guarantee the adequacy of the candidature for being considered for the selection process.

j. Decision of BEL in all matters regarding eligibility of the candidate, the stages at which such scrutiny of eligibility is to be undertaken, qualification and other eligibility norms will be final and binding on the candidate.

k. Relaxation and Concession will be applicable to the candidates belonging to SC/ST/OBC/PWD/EWS as per the Government directives.

l. Applications should have sound health. No Relaxation in health standard is allowed. Appointment of selected candidates will be subject to submitting medical fitness certificate from a Medical Officer not below the rank of Civil Surgeon / Assistant Surgeon at the time of joining.

m. Selected candidates are required to be covered under Medical Insurance Scheme for a sum of Rs.2 lakhs Per annum and submit the same on joining.

n. BEL reserves the right to debar / disqualify any candidate at any stage of the selection process for any reason what so ever.

o. Management reserves the right to cancel/restrict/enlarge/modify/alter the recruitment / selection process, if need so arises, without issuing any further notice or assigning any reason thereafter.

p. Canvassing in any form will result in disqualification.

The last date to submit the online application is 17.02.2021.
BEL Website: www.bel-india.in

For further details or any clarifications please contact *Helpdesk No: 8866678549 , 8866678559 / cbtexamhelpdesk@gmail.com.*