

**Government of India**  
**Ministry of Home Affairs**  
**Directorate General Border Security Force**  
**(Personnel Directorate: Recruitment Section)**

**DETAILED ADVERTISEMENT FOR DIRECT RECRUITMENT FOR THE POST OF JUNIOR AIRCRAFT MAINTENANCE ENGINEER (DEPUTY COMMANDANT) IN BSF-2024**

Online applications are invited from eligible and interested Male and Female Indian citizens for filling up the under mentioned vacancies of Group-'A' (Gazetted- Non Ministerial (Combatised) posts in the Border Security Force, Air Wing, Ministry of Home Affairs, Government of India through **Online Mode only** for vacancy year-2024 :-

Name of Posts	Name of Wing	Trade	Category Wise Vacancies					Total	Pay Level
			UR	EWS	OBC	SC	ST		
Junior Aircraft Maintenance Engineer (Deputy Commandant)	Mi-17	Mechanical	01	-	-	-	-	01	Pay matrix Level-11 (Rs.-67,700-2,08,700) As per 7 <sup>th</sup> CPC
		Avionics	01	-	01	-	-	02	
	ALH Dhruv	Mechanical	01	01	-	-	-	02	
	Fixed Wing	Avionics	02	-	-	-	-	02	
<b>Total Number of vacancies</b>			<b>05</b>	<b>01</b>	<b>01</b>	<b>-</b>	<b>-</b>	<b>07</b>	

**NOTE**

- (i) Vacancies are subject to change (may increase or decrease) due to administrative reasons. BSF reserves the right to make changes or cancel or postpone the recruitment without assigning any reason.
- (ii) Any amendment/Notice will only be published on BSF Website. Candidates in their own interest are requested to log on to <https://rectt.bsf.gov.in> regularly for updates.

**2. NATIONALITY/CITIZENSHIP :-**

Candidate must be a citizen of India.

**3. DISQUALIFICATION :-**

a) No person,

- i) who has entered into or contracted a marriage with a person having a spouse living; or
- ii) who having a spouse living, has entered into or contracted a marriage with other person, shall be eligible for appointment under these rules:

Provided that the Central Government may, if satisfied that such marriage is permissible under the personal law applicable to such person and the other party to the marriage and that there are other grounds for so doing, exempt any person from the operation of this rule.

- b) Conviction by any Court of Law
- c) Dismissal from Government Service.
- d) Termination from BSF during probation.

**4. ELIGIBILITY CONDITIONS:-**

**(A) AGE LIMIT**

S.N	Name of Post	Age
1.	Junior Aircraft Maintenance Engineer (Deputy Commandant)	Not exceeding 35 years of age as on the closing date of receipt of online application.

**Note- Crucial date for determining the age limit in each case shall be closing date on receipt of online application.**

• **RELAXATIONS OF UPPER AGE LIMIT ARE AS UNDER:-**

Age relaxation to different category of eligible candidates for the posts will only be given according to vacancy exists in respective category.

S/N	Category	Age Relaxation permissible beyond the upper age limit
1.	OBC	03 years
2.	<b>Central Government Employees (Unreserved)</b> who have rendered not less than 3 years regular and continuous service as on closing date.	05 years
3.	<b>Central Government Employees (OBC)</b> who have rendered not less than 3 years regular and continuous service as on closing date.	08 ( 5 + 3 ) years
4.	Candidate who had ordinarily been domiciled in the State of <b>Jammu &amp; Kashmir from 01.01.1980 to 31.12.1989 (Unreserved)</b>	05 years
5.	Candidate who had ordinarily been domiciled in the state of <b>Jammu &amp; Kashmir from 01.01.1980 to 31.12.1989 (OBC)</b>	08 years (05 yrs + 03 yrs)
6.	Children and dependent family of those killed in the <b>communal riots of the year 1984 and Gujarat riots of the year 2002 (Unreserved)</b>	05 years
7.	Children and dependent family of those killed in the <b>communal riots of the year 1984 and Gujarat riots of the year 2002 (OBC)</b>	08 years ( 5 + 3 ) years

**NOTE**

- (i) Age of candidates will be determined on the basis of Date of Birth as recorded in their matriculation Examination Certificate or an Equivalent certificates available on the closing date of submission of online application and no subsequent request for its change will be considered or granted.
- (ii) Prescribed format of certificate for reserved categories are attached as per **Annexure-'B' and B-1** for OBC category.
- (iii) A person seeking appointment on the basis of reservation to OBC must ensure that he/she possesses the caste/community certificate as per prescribed format given in the advertisement. The crucial date for this purpose will be the closing date for receipt of online applications.
- (iv) Every candidate seeking reservation as OBC is required to submit a certificate in prescribed format (**Annexure-'B'**) regarding his/her OBC status and non-creamy layer status issued by the Competent Authority. Candidates claiming OBC status may ensure that he/she possess caste/community certificate and does not fall in creamy layer on the crucial date i.e. closing date for receipt of application. (In order to ensure it, a declaration in addition to the certificate issued by the Competent Authority will also be obtained from the candidates seeking reservation as OBC in the format attached as **Annexure-'B-1'**).



(B) **EDUCATIONAL QUALIFICATION**

**S/N Name of Post**

- (i) Junior Aircraft Maintenance Engineer (Deputy Commandant)

a) **Essential**

- 1) i) Graduate with holder of Aircraft Maintenance Engineer's License or Basic Aircraft Maintenance Engineer's Examination Certificate or Basic Aircraft Maintenance Engineer's Examination License in any one Category of Avionics (E,I,R)/ (ES, IS, RN) or (A,C)/(HA & JE) in Mechanical stream; and

ii) Total Aircraft Maintenance Experience of three years including one year as Aircraft Maintenance Engineer preferably with experience on type of Aircraft or Helicopter held by BSF (As prescribed from time to time as per requirement)

Or

- 2) i) Holder of Engineering Degree or equivalent in Mechanical or Electrical or Electronics and Tele-Communications or Aeronautical stream (for MI-17 IV); or

Graduate with holder of Aircraft Maintenance Engineer's license or Basic Aircraft Maintenance Engineer's Examination certificate or Basic Aircraft Maintenance Engineer's Examination license in Air Frame (A) or Engine (C) or (HA or JE) (for Advance Light Helicopters); and

ii) Total Aircraft Maintenance Experience of three years including one year as Aircraft Maintenance Engineer preferably with experience on type of Aircraft or Helicopters held by BSF (As prescribed from time to time as per requirement).

**Note :** The applicable qualification for DGCA registered ALH Dhruv helicopter shall be Aircraft Maintenance Engineer (AME) category A&C license; and for IAF (Military) registered MI-17 and Fixed Wing Embraer Aircraft, the applicable qualification shall be degree in Engineering in Mechanical for Mechanical stream; and Degree in Engineering in Electrical or Electronic and Telecommunication or Aeronautical for Avionics stream".

(C) **PHYSICAL STANDARDS TEST (PST)**

**The minimum requirement for the candidates are as follows :-**

Measurement	Male	Female
Height	165 Cms.	157 Cms.
Chest	(Un-expanded)-81 Cms (with 5 Cms Minimum expansion)	Not applicable.
Weight	50 Kgs	According to height but not less than 46 Kgs.

(d) **MEDICAL STANDARDS**

The Medical Examination including visual standard will be conducted as per revised uniform guidelines for recruitment Medical Examination of GOs and NGOs in the CAPFs & AR as circulated by MHA vide their Office memorandum No.A-VI-1/2014-Rectt(SSB) dated 20th May 2015 and subsequent amendment thereof., Revised uniform guidelines for Review Medical Examination in CAPFs & AR for GO's & NGO's circulated by MHA (Police-II Division) vide their office Memorandum No.E.32012/ADG(Med)/DME& RME/DA-1/2020/1166 dated 31 May'2021 and subsequent amendment thereof.

## TATTOO :-

- **Content:** - Being a secular country, the religious sentiments of our countrymen are to be respected and thus, tattoos depicting religious symbol or figures and the name, as followed in Indian Army are permitted.
- **Location:-** Tattoos marked on traditional sites of the body like inner aspect of forearm but only left forearm, being non saluting limb or dorsum of the hands are to be allowed.
- **Size:** - Size must be less than  $\frac{1}{4}$  of the particular part (Elbow or hand) of the body.
- In case of candidate has undergone removal of tattoo (s) prior to appearing for recruitment process and the same has faded substantially, this will be treated as a "scar" and not a tattoo. Such candidate will be permitted to undergo the entire selection process with approval of Presiding officer of the recruitment Board. Further, the scar resulting due to removal of tattoo will be reviewed by the Medical Board of officers during detailed Medical examination.

The medical examination will be done as per the parameters issued by MHA in Medical Manual dated 20/05/2015, Revised uniform guidelines for Review Medical Examination circulated by MHA (Police-II Division) vide their office Memorandum No.1166 dated 31 May'2021 and subsequent amendment thereof.

- On completion of detailed medical examination, if a candidate is declared Medically Unfit during detailed medical examination, he/she will be allowed to undergo Review Medical Examination (RME), provided they give their written consent by appending their signature on the intimation indicating reasons for being unfit, as per **Annexure- 'C'**. Review Medical Examination (RME) of candidates will be conducted in continuation of DME preferably on the next day of DME. The consent for RME as per **Annexure-'C'** duly signed by the candidate should be submitted within 24 hrs after he/she is informed of his/her unfitness in DME. Review Medical Examination (RME) is conducted to rule out the possibility of an **Error of Judgement** in the decision of initial Medical Board/DME board. Decision of Review Medical board will be final. No appeal/representation against the decision of Review Medical board will be entertained.

## 5. PROCESS OF CERTIFICATION AND FORMAT OF CERTIFICATES:

- (i) OBC category Candidates, who wish to be considered against vacancies reserved/or seek age-relaxation must submit requisite certificate issued by the Competent Authority in the prescribed format **Annexure-'B'** when such certificate are sought by the concerned selection board at the time of documentation and does not fall in creamy layer on the crucial date i.e. closing date for receipt of application. (In order to ensure it, a declaration in addition to the certificate issued by the Competent Authority will also be obtained from the candidates seeking reservation as OBC in the format attached as **Annexure-'B-1'**). Otherwise, their claim for OBC status will not be entertained. The formats of the certificates are annexed. Certificates obtained in any other format will not be accepted. Any similar request made by the candidates after the stage of documentation will not be considered.



## NOTE

- (i) Candidates are warned that they will be permanently debarred from the examination conducted by the BSF in case they fraudulently claim OBC/Central Govt. servant.
- (ii) Candidates should note that the Date of Birth as recorded in the Matriculation/Secondary Examination Certificate or an equivalent certificate available on the closing date of submission of application will be accepted for determining the age and no subsequent request for its change will be considered or granted.

6. **SELECTION PROCEDURE** : Selection procedure for the above post will be as under:-

i) **FIRST PHASE ( WRITTEN EXAMINATION)**

1<sup>st</sup> phase of examination i.e Written Examination will be conducted at the Examination Centre. The date and time venue of written examination will be fixed by HQ DG BSF. Question papers will be printed bilingual i.e Hindi & English both. There will be two composite papers are as under :-

a) **First paper (Objective type multiple choice) Time -01 Hour and 30 minutes)**  
**(OMR answer sheet)**

Subjects	Nos of Questions	Marks	Duration
General English	10 Questions	10 Marks	01 Hour and 30 minutes
General awareness	20 Questions	20 Marks	
Reasoning	10 Questions	10 Marks	
Technical Subject	60 Questions	60 Marks	
<b>Total</b>	<b>100 Questions</b>	<b>100 Marks</b>	

b) **Second paper (Subjective Type) Time -02 Hrs - 10 Questions – 100 Marks**

**THE MINIMUM QUALIFYING MARKS OF EACH PAPER FOR WRITTEN EXAMINATION IS AS UNDER:-**

- i) General(UR)/EWS/OBC category candidates – 50%

**Note :-**

- a) However, number of candidates to be qualified in written examination will be restricted maximum ten times of number of vacancies or qualified candidates whichever is less, for appearing in 2<sup>nd</sup> phase examination. **There will be no re-evaluation of answer sheet.**
- b) Candidates are not permitted to use Mobile Phone, Calculator or any other electronic/electrical device for answering any paper (Test Booklets). Candidates will not bring Mobile Phone, Calculator or any other electronic/electrical device inside the Examination premises. Possession of these items, whether in use or not, will be considered as “use of unfair means” in the Examination and appropriate action will be taken by the department against such candidates, as per extant policy of the department.
- c) The 1<sup>st</sup> paper of written Examination will be conducted on OMR based answer sheet. If the candidate did not properly shade/wrongly shaded/did not fill/wrongly filled his/her mandatory data ovals i.e Roll number, question Booklet series code, Category and sub-category etc in the OMR Answer sheet, it will be rejected at the initial stage and the OMR answer sheet will not be further evaluated for which candidate himself will be responsible for such rejection. Further, 2<sup>nd</sup> paper of written examination will be descriptive type and candidate will be filled the columns properly, which is essential for evaluation purpose.
- d) Standard and syllabus of written examination is placed at **Annexure -'D'**.

ii) **SECOND PHASE OF THE EXAMINATION**

Successful candidates in 1<sup>st</sup> phase Examination i.e Written Examination will appear before the selection board for Second Phase Examination i.e. Documentation, Physical Standards Test, Oral cum Practical Test on due date at the Centre, which will be communicated to them through E-Mail address/SMS for call letters through online Admit Card/Call Letters. They will be put through subsequent stages of test. Candidates have to qualify all the stages of the Second phase examination one by one. Any candidate not qualifying in any of the events of examination will be eliminated from the process of recruitment.

(a) **DOCUMENTATION**

Original testimonials/certificates of the candidate will be checked to confirm the eligibility of the candidates at the Centre on the date and time fixed by the department, which will be communicated to the candidates through E-Mail address/SMS for call letters/admit cards through online. If candidate does not produce original documents during documentation i.e Matriculation certificate as proof of date of birth, Educational/Technical degree certificate with marks sheets, Caste certificate of OBC category and candidate does not fall in creamy layer on the crucial date i.e closing date for receipt of application and other documents as per post eligibility criteria. Any candidate, who will not possess the documents as per eligibility criteria during documentation, he/she will be disqualified. Documentation will be qualifying in nature.

(b) **PHYSICAL STANDARDS TEST (PST)**

The minimum requirement for the candidates are as follows :-

Measurement	Male	Female
Height	165 Cms.	157 Cms.
Chest	(Un-expanded)-81 Cms (with 5 Cms Minimum expansion)	Not applicable.
Weight	50 Kgs	According to height but not less than 46 Kgs.

(c) **ORAL CUM PRACTICAL**

Candidates declared qualified in the Written Examination and Documentation will only be allowed to appear before the selection board for Oral cum Practical Test. The Oral cum Practical Test carries 50 marks. The minimum qualifying marks of Oral cum Practical Test as under :-

Category	Minimum Qualifying Marks
General(UR)/ EWS/OBC	50 %

iii) **THIRD PHASE OF THE EXAMINATION**

Successful candidates in 1<sup>st</sup> & 2<sup>nd</sup> phase Examination i.e Written Examination & Documentation, Physical Standards Test, Oral cum Practical Test will appear before the selection board for Third Phase Examination i.e. Interview and Medical Examination on due date at the Centre, which will be communicated to them through E-Mail address/SMS for call letters through online Admit Card/Call Letters. They will be put through subsequent stages of test. Candidates have to qualify all the stages of the Third phase examination one by one. Any candidate not qualifying in any of the events of examination will be eliminated from the process of recruitment.



(a) **INTERVIEW**

Candidates declared qualified in the Written Examination, Documentation and Oral Cum Practical Test will only be allowed to appear before the selection board for Interview. The interview and personality test carries 50 marks. The minimum qualifying marks of interview as under :-

a)	Knowledge of Subject	25 Marks
b)	Personality	05 Marks
c)	General awareness	10 Marks
d)	Extra-Curricular activities	05 Marks
	<b><u>i) NCC Certificate</u></b>	
	NCC 'C' Certificate	-05 Marks
	NCC 'B' Certificate	-03 Marks
	NCC 'A' Certificate	-02 Marks
	<b><u>ii) Sports Achievement</u></b>	
	School Level Game	-01 Mark
	University Level Game	-02 Marks
	State Level Game	-03 Marks
	National Level Game	-05 Marks
e)	<b>Experience</b>	05 Marks
	a) Below 06 Months	- Nil
	b) Upto 06 Months	- 01 Mark
	c) Upto 12 Months	- 02 Marks
	d) Upto 18 Months	- 03 Marks
	e) Upto 24 Months	- 04 Marks
	f) Above 24 Months	- 05 Marks
	<b>Total</b>	<b>50 Marks</b>

**Qualifying marks of Interview**

a) For General (UR),EWS & OBC category candidates	- 50 %
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**NOTE :-**

Candidate will be put through subsequent stages. Candidates have to qualify all the stages of the examination one by one. Any candidate not qualifying in any of the events of examination will be eliminated from the process of recruitment.

(b) **MEDICAL EXAMINATION**

Candidates, who will secure minimum qualifying marks in all the above stages of examination i.e. Written Examination, Documentation and Interview will undergo detailed Medical Examination, which will be conducted by a Medical board to assess their fitness as per revised uniform guidelines of Medical Examination for recruitment Medical Examination of GOs and NGOs in the CAPFs & AR as circulated by MHA vide their Office memorandum No.A-VI-1/2014-Rectt(SSB) dated 20th May 2015 and subsequent amendment thereof. If, a candidate is declared Medically Unfit during detailed medical examination, he/she will be allowed to undergo Review Medical Examination (RME), provided they give their written consent by appending their signature on the intimation indicating reasons for being unfit, as per **Annexure-'C'**. Review Medical Examination (RME) of candidates will be conducted in continuation of Detailed Medical Examination preferably on the next day of DME. The consent for Re-Medical Examination as per **Annexure-'C'** duly signed by the candidate should be submitted within 24 hrs after he/she is informed of his/her unfitness in DME. Review Medical Examination (RME) is conducted to rule out the possibility of an **Error of Judgement** in the decision of initial Medical Board/DME board. Decision

of Review Medical board will be final. No appeal/representation against the decision of Review Medical board will be entertained.

7. **DRAWAL OF FINAL MERIT LIST FOR THE POSTS OF JUNIOR AIRCRAFT MAINTENANCE ENGINEER (DEPUTY COMMANDANT)**

- (a) After completion of Medical examination, merit list will be drawn separately on the basis of marks secured/obtained by the candidates in the written examination and interview. In cases of tie in marks, tie cases will be resolved in the following manner:-
- Total Marks in written examination.
  - Date of Birth, with older candidates placed higher.
  - Alphabetical order in the first names of the candidates appear.
- (b) The list of finally selected candidates will be published on BSF website ([rectt.bsf.gov.in](http://rectt.bsf.gov.in))
- (c) **No waiting list shall be maintained/kept.**

**Note-II** It is mentioned here that qualifying in the test will not confer any right to appointment, unless Recruitment Board is satisfied after Medical Examination and such enquiry as may be considered necessary that the candidates is suitable in all respect for appointment to the service/post. The decision of the Recruitment Board shall be final.

8. **HOW TO APPLY**

The application by the candidates must be submitted through **ONLINE** mode only. No other mode for submission of application will be accepted. The facility for submission of online application will be opened on BSF website <https://rectt.bsf.gov.in> w.e.f 26/05/2024 at 00:01 AM and will be closed on 24/06/2024 at 11:59 PM. Procedure for submission of online application is attached with this advertisement as per **Annexure – 'A'**.

9. **APPLICATION FEES AND MODE OF PAYMENT**

Candidates to pay Rs.400/- (Rupees Four hundred only) as examination fee through following payment modes :-

- Net banking of any bank.
- Credit/Debit Card of any bank.
- Nearest authorised Common Service Centre

**NOTE :-**

- Female candidates of all categories and candidates belonging to Scheduled Caste, and Scheduled Tribes, BSF serving personnel are exempted from payment of examination fee. However, Rs.40/- plus taxes = Rs.47.2/- will be charged from every candidate including exempted category as "service charge" by the CSC.
- Payment of examination will be accepted only through Online mode
- Fee once paid will not be refunded under any circumstances.
- In case of non-receipt of examination fee from the candidates of non-exempted categories, their form will not be accepted.

10. **RECRUITMENT CENTRES**

The candidates can opt the centre for appearing in different selection stages of recruitment process :-

Name of Centre	Address of Location/Address	Responsibility
Delhi	IG (HQ) FHQ, East Block-09, Level-04, R K Puram, New Delhi-110066	IG (HQ) FHQ BSF New Delhi



**NOTE :-**

- (i) Centre for conduct of examination may be changed at any stage of examination, if required, due to administrative reasons.
- (ii) The candidates applying for the examination should ensure that they fulfil all the eligibility conditions for admission to the Selection Test. Their admission at all the stages of examination will be purely provisional, subject to their satisfying the prescribed eligibility conditions. If, on verification, at any time before or after the Selection Test, it is found that they do not fulfil any of the eligibility conditions, their candidature for the examination will be cancelled by the Department.

**11. IMPORTANT INSTRUCTIONS TO CANDIDATES**

1.	Before applying online application, Candidates are advised to go through the requirement of educational /technical qualification, age and other criteria as per online detailed advertisement and satisfy themselves that they are eligible for the posts before applying. BSF reserves the right to cancel the candidature of any candidate at any stage of the selection process, if he/she is found not qualifying any of the prescribed eligibility criteria. This detailed advertisement is available on the BSF website <a href="http://rectt.bsf.gov.in">http://rectt.bsf.gov.in</a> .
2.	Candidates seeking reservation benefits for Central Govt. Servant/OBC must ensure that they are entitled to such reservation as per eligibility prescribed in the notice according to vacancy of the advertised post in OBC Category. They should also be in possession of the certificates in the format prescribed by Government of India in support of their claim at the time of application.
3.	Central Government Servants claiming age relaxation should be in possession of a certificate in the prescribed format from their office, in respect of the length of continuous service which should be not less than three years in the immediate period preceding the closing date for receipt of application.
4.	Qualifying the selection stages of recruitment process doesn't confer any right to candidates for appointment. Final selection of candidate will be made purely on merit.
5.	When application is successfully submitted, it will be accepted provisionally. Candidate may take printout of the application form for their own records. <b>Printout of the application form is not required to be submitted to BSF recruitment centres.</b> Candidates are also advised to fill their correct and active e-mail addresses and mobile number in the online application as correspondence may be made through E-mail/SMS.
6.	Candidate should note down and retain 'Registration-ID' and 'Password' provided to them while making 'One-Time Registration' which is required for filling online application.
7.	Only online application is to be submitted by a candidate. Therefore, the candidates are advised to exercise due diligence at the time of filling their application form. Also ensure that all the particulars of application form must be filled up as given in the matriculation certificate otherwise their candidature may be cancelled at the time of documentation or as and when it comes into the notice of the board.
8.	Candidates will fill up personal basic information through online in the application form with correct entry like name of the post, candidate's name, father's name, address, category, DOB, marital status, mobile number, E-mail address, educational/technical qualification etc and thoroughly check all the entries.
9.	Candidates to refrain themselves from filling wrong information in their application form, uploading fake photograph of any other person/celebrity/dignitaries or object or puts blank photo etc., suitable action will be taken against such defaulter candidates as per provisions under Cyber Crime IT Act 2000.
10.	Applications with illegible/blurred photographs/Signature will be rejected summarily.
11.	Candidate serving in Government/Semi Government/Public Sector undertakings should apply after obtaining NOC. No objection certificate (NOC) from their employer will be required with application form. Also required at the time of Documentation and Interview.



12.	Candidate are required to upload their all essential Educational/technical certificates and other certificate as per post criteria mentioned in online detailed advertisement at Para No.4 (B) and other documents/certificate as per their category to support their claims as per advertised vacancy of the post. They should ensure they fulfil all the eligibility conditions for admission to the posts. <b>If on verification at later stage, it is found that candidate does not fulfil any of the eligibility conditions, their candidature will be cancelled by the Recruitment Selection Board.</b>
13.	All eligible candidates who apply in response to this advertisement before the closing date will be assigned Roll Numbers, if they fulfil the term and condition as given in this advertisement and found eligible for the post. Only such eligible candidates will be communicated through E-mail address/SMS for Call letters/Admit Cards through online mode for appearing in the first phase selection process. Their admission at all the stages of examination will be purely provisional subject to their satisfying the prescribed eligibility conditions. if on verification at any time before or after the selection test any candidate found not eligible at later stage in any aspect his/her candidature will be cancelled by the Department. The admit cards for all the phases of examination will be made/uploaded on the website only. Therefore candidates are advised to visit the BSF website for upcoming latest information of the all the phases of Examination.
14.	The recruitment board shall not be liable for any claim arising out of any injury etc. suffered during the tests. The decision of the recruitment board shall be final in all matters connected with this recruitment.
15.	The appointment will be subject to the conditions that the candidates are medically as well as physically fit. The selected candidates will have to undergo Basic Training at any of the Training Institutions of BSF. The services of those candidates who fail to complete the training successfully are liable to be terminated.
16.	Candidates belonging to the Physically Handicapped category are NOT ELIGIBLE to apply for this examination.
17.	Intimation regarding issue of Admit cards/call letters and any other important information pertaining to recruitment will be sent on the e-mail address or mobile number of candidates given by the candidates at the time of One Time Registration (OTR). BSF will not be responsible for any technical issue arisen due to inactive e-mail address or invalid mobile numbers. Hence, candidates are advised to ensure that active e-mail ID & mobile number must be used for OTR.
18.	Mobile, Calculator and other Electronic Gadgets are banned within the premises of the Examination Centre.
19.	The posts carries all India service liability. The selected candidates are liable to be posted anywhere in the Country as per the transfer policy of the Force.
20.	The recruitment will be done on All India Basis.
21.	Selected candidate will be governed by BSF Act and Rules.
22.	On appointment they shall be entitled for pension benefits as per the <b>“New Restructured Defined Contributory Pension Scheme”</b> applicable for the new entrants to the Central Government services w.e.f. 1st January, 2004.
23.	No request for change of Recruitment centre will be allowed/accepted under any circumstances. The Department reserves the right to cancel the centre and ask the candidates of that centre to appear from another centre. Department also reserve the right to divert candidates of any centre to some other centre to take the examination on administrative grounds.
24.	The candidates will have to make their own arrangements for stay during the course of appearing in recruitment process.
25.	In case, candidates are appointed in BSF and subsequently seek resignation or discharge before completion of 10 years service, they shall be required to remit an amount equal to three months pay and allowances or the cost of training imparted to them, whichever is higher as per rules to the Government.
27.	Beware of touts. No money is charged for recruitment in BSF. If you have paid or promised to pay money to any one, you are cheated and you are losing money. If



	anyone demands money or promises recruitment, you should immediately inform the same to the Presiding Officer (PO)/Chairman of the concerned recruitment centre.
28.	Appealing in any form or bringing outside influence will automatically disqualify the candidate from appearing in recruitment.
29.	The decision of the department in all matters relating to eligibility, acceptance or rejection of the application, mode of selection, medical examination etc. will be final and binding on the candidates. No enquiry/correspondence will be entertained in this regard.
30.	The department holds the right to make any changes in the advertisement or cancel it without assigning any reason.
31.	Candidates are advised to visit BSF website <a href="http://rectt.bsf.gov.in">rectt.bsf.gov.in</a> from time to time to know latest updates of recruitment process.
32.	An Employee serving in the same rank and pay grade will not be entitled to apply for said posts.
33.	Candidate must carry Admit Card with valid photo bearing ID proof, which is required at the Examination venue for entering in selection test, failing which they will not be allowed to appear for the same. Besides above, candidates may carry two recent passport size colour photographs with him for necessary action as required.
34.	Final scrutiny of eligibility criteria with regards to age, educational/technical qualification and experience etc according to post will be undertaken at the time of final selection/medical examination. Therefore, candidature will be accepted only provisionally till the final selection. At the time of final selection when scrutiny is undertaken and if any claim made in application is not found substantiated then the candidature will be cancelled and the decision of BSF in this regard shall be final.

## 12. ACTION AGAINST CANDIDATES FOUND GUILTY FOR MISCONDUCT


Candidates are warned that they should not furnish any particulars that are false or suppress any material information while filling the online application form. If there is any inaccuracy or any discrepancy is found in OMR answer sheet, their OMR answer sheets will be held invalid and will not be further evaluated.

Involvement of candidates in any of the following activities will render their candidature debarred from appearing in recruitment :-

- (i) Possession of Mobile phone, accessories or any other electronic gadget whether in use or in switch off mode.
- (ii) Impersonate/procuring impersonation by any person.
- (iii) Submitting fabricated documents or documents which have been tampered with.
- (iv) Making statements which are incorrect or false or suppressing material information.
- (v) Resorting to any other irregular/improper/unfair means for qualifying the examination.
- (vi) Misbehaving in any other manner in the examination hall with the invigilator or any of exam functionaries.
- (vii) Besides above, candidature of candidates can be cancelled at any stage of the recruitment for any other ground which the BSF considers to be sufficient cause for cancellation of candidature.

## 13. COURTS JURISDICTION

Any dispute in regard to this recruitment will be subject to Courts/Tribunals having jurisdiction over the City/Town in which the concerned centre/office of BSF is situated and candidate has opted in his/her application.

  
 (Amar Bir Singh)  
 Comdt (Rectt.)  
 02 May 2024



PROCEDURE/INSTRUCTIONS FOR REGISTRATION AND SUBMISSION OF ONLINE APPLICATION FORMS

- (a) Candidates must apply online by visiting BSF website <http://rectt.bsf.gov.in>. No other mode for submission of application will be accepted. Online submission of application form comprises of following steps :-
- (i) **One Time Registration (OTR). (STEP-I)**
  - (ii) **Filling of online application. (STEP-II)**
  - (iii) **Payment of examination fee through prescribed digital modes. (STEP-III)**
- (b) In STEP-I, candidates should first complete '**ONE TIME REGISTRATION**' (OTR) process by filling basic information relating to them i.e Name, Mobile Number and E-mail ID. Candidates to ensure that, only active/functional mobile number and E-mail ID must be used for **One Time Registration** purpose.
- (c) On submission of information, candidates will receive their **Registration ID and password** on their given mobile number as well as E-mail address. **Candidates are advised to keep memorize the Registration ID and password as the same will be essential to obtain access to your profile throughout the entire recruitment process.**
- (d) After completing the registration part, candidates can view the active advertisements under '**ONLINE APPLICATION**' link by logging in using their credentials.
- (e) In STEP-II, candidates can apply for Recruitment to the posts as mentioned in the detailed advertisement at para-1 by clicking on '**APPLY HERE**' link available next to relevant advertisement.
- (f) Candidate are advised to read the instructions mentioned in recruitment notification carefully before proceeding to online submission of online application form.
- (g) After reading the instructions, candidates should carefully fill the relevant fields of online application form and upload all essential documents (as mentioned in para No.4 (B) of detailed advertisement and other documents as per their category, photograph, signature and Thumb impression. Mandatory fields are marked with \* (asterisk) sign. Only the application of candidate who fulfilling eligibility conditions will be accepted by system.
- (h) Candidates will have to fill basic personal information. After filling up all relevant information, candidate can see complete preview of their application form. If candidate desires to make any correction, then press "back". **No correction in the application can be made after clicking "submit" button. Hence, candidates are advised to press "submit" button only after confirmation of correctness of filled information by him/her.**



- (i) The digital size of photographs- 30 to 100 kb, signature- 20 to 50 kb, qualification documents 30 to 100 kb and thumb impression should not be more than 50 KB. Photographs and signature must be clearly visible and latest photographs must be uploaded. Format should be jpg.jpeg.png formats.
- (j) Candidates should thoroughly check all the entries filled in the online application form, before final submission. In case of any discrepancy, relevant entry may be corrected/edited. After final submission of online application, no change in any particular shall be allowed.
- (k) In STEP-III, the candidates are required to make fee payment (Candidates who are exempted from fee payment are not required to pay fee). Fee can be paid through Net banking, Debit Card, Credit Card and nearest Common Service Centre. Candidate's application will not be considered if fee is not paid for that application.
- (l) Candidates are required to follow below mentioned procedure to pay the fees :-
- After login, Application history is visible at the bottom side of page.
  - Candidates will be able to see applications submitted by him to the advertisement with fees payment status. Applications for which fees payment status is unpaid. Pay now link will be available there.
  - Three options will be available after clicking on pay now link.  
a) Net banking b) Debit card c) Credit card.
- (m) After shown successful completion of fee payment, application will be completed. Candidates may take printout of this application for their own record. **Printout of application are not required to be sent to BSF.**
- (n) Online application submission will be completed after payment of examination fee.

**Note** : All eligible candidates under OBC category, who apply in response to this advertisement before the closing date will be assigned Roll Numbers, if they fulfill the term and condition as given in this advertisement and found eligible for the post. Only such eligible candidates will be communicated through E-mail address/SMS for Call letters/Admit Cards through online mode for appearing in the various selection process i.e Written Examination, Documentation Interview and Medical Examination according to post wise Exam/tests. However, any candidate found not eligible at later stage in any aspect, his/her candidature will be cancelled. The admit cards related information for all the phases of examination will be made/uploaded on the website only. Therefore candidates are advised to visit the BSF website for upcoming latest information of the all the phases of Examination.



**FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES  
APPLYING FOR APPOINTMENT TO POST UNDER THE GOVERNMENT OF INDIA**

This is to certify that Shri/Smt./Kumari \_\_\_\_\_  
Son/Daughter of \_\_\_\_\_ of \_\_\_\_\_ village  
/Town \_\_\_\_\_ in  
District/Division \_\_\_\_\_ in  
the State/Union Territory \_\_\_\_\_ belongs to the  
\_\_\_\_\_ Community which is recognized as a  
backward class under the Government of India, Ministry of Social Justice and Empowerment's  
Resolution No. \_\_\_\_\_ dated \_\_\_\_\_\*.

2. Shri/Smt./Kumari \_\_\_\_\_ and/or  
his/her family ordinarily reside(s) in the  
\_\_\_\_\_ District/Division of  
the \_\_\_\_\_ State/Union Territory. This is also to certify that  
he/she does not belong to the persons/sections (Creamy Layer) mentioned in Column 3 of the  
Schedule to the Government of India, Department of Personnel & Training O.M. No.  
36012/22/93- Estt.(SCT) dated 8.9.1993 \*\* (\*\*as amended from time to time).

District Magistrate  
Deputy Commissioner etc.

Dated: \_\_\_\_\_

Seal

\*The authority issuing the certificate may have to mention the details of Resolution of Government of India, in which the caste of the candidate is mentioned as OBC for central Government services,)

\*\* - As amended from time to time.

Note :- The term "ordinarily "used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.



**DECLARATION BY OBC CANDIDATE REGARDING  
NON-CREAMY LAYER STATUS**

I, \_\_\_\_\_ Son/Daughter of  
Shri \_\_\_\_\_ resident of  
village/town/city \_\_\_\_\_ District/Division \_\_\_\_\_ State \_\_\_\_\_

hereby declare that I belong to \_\_\_\_\_ community which is recognized as a backward class by the Government of India for the purpose of reservation in services as per orders contained in DOP&T OM No. 36012/22/93-Estt.(SCT) dated 08.09.93 which is modified vide O.M No. 36033/3/2013 Estt(Res) dated 13.09.2017. It is also declared that I do not belong to persons/sections (**Creamy Layer**) mentioned in column 3 of the Schedule to the Government of India.

**Signature of the applicant  
(OBC Candidate)**



**FOR OFFICIAL USE ONLY**

**Recruitment for the post of Junior Aircraft Maintenance Engineer (Deputy Commandant) in BSF Air Wing by Direct Recruitment Exam-2024**

**MEMORANDUM UNFIT**

**Subject : Review Medical Examination of candidates found to be UNFIT in DME for the post of Junior Aircraft Maintenance Engineer (Deputy Commandant) in BSF Air Wing By Direct Recruitment Exam-2024**

Mr./Ms. .... Roll

No..... is hereby informed that he/she has been medically examined for recruitment to the post of Junior Aircraft Maintenance Engineer (Deputy Commandant) in BSF Air Wing on \_\_\_\_\_ at \_\_\_\_\_ and found UNFIT due to the reasons mentioned below :-

- (i) .....
- (ii) .....
- (iii) .....
- (iv) .....

2. You are hereby informed that you can apply for Review Medical Examination (RME) by signing on the consent form below. RME will be conducted on ..... for which you are required to report at..... hours.

Signature of Medical Officers

Date  
Centre

Name  
Stamp

Counter-signature of the Presiding Officer with Seal.

**Result of Medical Examination received**

Name & Signature of the Candidate

**FOR USE OF CANDIDATE ONLY**

To

**The Presiding Officer of Recruitment Board**

.....  
.....

Subject – **APPLICATION FOR REVIEW MEDICAL EXAMINATION**

Sir,

I hereby convey my consent for undergoing Review Medical Examination.

Place.....  
Date.....

Signature.....  
Name.....  
Roll No.....

(.....)  
**Signature of the Presiding Officer with Seals**



## STANDARD AND SYLLABUS OF WRITTEN EXAMINATION

The standard of the syllabus will be at PAR with the examination conducted by DGCA for granting the AME License in various categories. The syllabus for the same is as follows:

### Syllabus common for all Stream (Mechanical and Avionics) for Jr. AME(DC)

#### 1. Aircraft Rules and Regulations:-

- i) Knowledge of Aircraft Rules as far as they relate to airworthiness and safety of aircraft.
- ii) Knowledge of privileges and responsibility of the various categories of AME License and approved persons.
- iii) Knowledge of "Civil Airworthiness Requirements", "Aeronautical information Circulars (relating to airworthiness)", "Advisory Circulars" and AME Notices issued by DGCA.
- iv) Knowledge of various mandatory documents like Certificate of Registration, Certificate of Airworthiness, Flight Manual, Export Certificate of Airworthiness.
- v) Method of identifying approved material on Aircraft.
- vi) Knowledge of various documents/certificates issued to establish airworthiness of Airworthiness of Aircraft parts.
- vii) Various logbooks required to be maintained for Aircraft Method of maintaining the logbook. Procedure for making entries in logbooks, Journey logbook, Technical logbook etc.
- viii) Use of schedule, its certification, preservation.
- ix) Store: Bonded and Quarantine stores, storage of various aeronautical products including rubber goods, various fluids.
- x) Knowledge of various terms such as Certificate of Flight Release, Certificate of Maintenance, Approved Certificates.
- xi) Condition under which Aircraft is required to be test flown; Certificate to be issued by AME for test flight.
- xii) Circumstances under which C of A is suspended, Ferry Flight, MEL, CDL.
- xiii) Minimum equipments, instruments required for various types of operation.
- xiv) Modification, concession, Airworthiness Directive, Service Bulletins.
- xv) Approval of Organization. Documents required to be carried on board. Issue of Type Approval. Registration markings.
- xvi) Human performance and limitations relevant to the duties of an aircraft maintenance engineer license holder.
- xvii) Detailed knowledge of various Civil Airworthiness Requirements (CAR) issued by the regulatory authority from time to time.

#### 2. Aircraft General Engineering and Maintenance Practices.

##### a) Aircraft Maintenance Practices.

- i) General knowledge of procedure of jacking, leveling and mooring of aircraft.
- ii) Knowledge of maintenance and handling of equipments used in the maintenance of aircraft.
- iii) Knowledge of safety and fire precautions to be observed during maintenance, refueling and defueling of aircraft.
- iv) Knowledge of colour coding, symbols or other marking to identify fluid systems pipelines, rubber parts and other aircraft systems of aircraft.
- v) Knowledge of various Aircraft manuals, ATA system of classification, inspection schedules, time limit.

b) **Workshop practices**

- i) Knowledge of material, parts and use of hand tools, simple machine tools and precision measuring instruments.
- ii) Detailed knowledge of identification, terminology, correct use and inspection of aircraft bolts, nuts, rivets, screws and locking devices of British and American systems.
- iii) Detailed knowledge of the interpretation of engineering drawing including symbols.
- iv) Detailed knowledge of various types of gears and bearings, their use and common defects.
- v) Knowledge of various forms of threads used in British and American system.
- vi) Knowledge of various types of threads, drills, taps, reamers.
- vii) Knowledge of hardness testing machines and various types of hardness numbers.
- viii) Knowledge of various types of Aircraft cables and swaging procedures used.

c) **Aircraft Metallurgy**

- i) Knowledge of commonly used ferrous, nonferrous and composite materials, their identification, properties, heat treatment processes, testing and their application in aircraft industry.
- ii) Knowledge of various types of corrosion, its cause and protection.
- iii) Detailed knowledge of the hot oil and chalk, dye penetrate and fluorescent and magnetic particle techniques and the subsequent inspection of the parts.
- iv) Knowledge of the X-Ray, Ultrasonic and eddy current inspections.
- v) Knowledge of arc welding, gas welding, brazing and soldering.

d) **Electrical and Instrument and Radio**

- i) Knowledge of electrical terminology and components used in AC/DC circuitry, Ohm's law, Kirchhoff's law and their application. Principle of Electromagnetic Induction and their application. Various methods of voltage regulation. Principle of operation of electrical test equipments.
- ii) Knowledge of Batteries and their maintenance.
- iii) Knowledge of principle of operation of aircraft and engine instruments.
- iv) Knowledge of various types of diodes/triodes/transistors and their function.
- v) Knowledge of conversion from decimal to binary system and vice-versa. Symbols used in logic gates.
- vi) Elementary knowledge of computers, its applications.
- vii) Identify the bands of frequency spectrum, their use and propagation characteristics.

e) **Aircraft and Engine**

- i) Knowledge of the functions of the major aircraft components and types of propulsion systems used in aircraft industry.
- ii) Knowledge of the terms lift, drag, angle of attack, stall.
- iii) Knowledge of principle of four stroke cycle and Brayton's cycle as applied to piston engines and jet engines.



## Syllabus for Mechanical Stream (Airframe system) Fixed Wing for Jr. AME(DC)

### a) Aircraft Materials

- i) Knowledge of effect of various alloying elements in the structure of steel/ Aluminum, their properties and use.
- ii) Knowledge of Heat treatment of Steel and Aluminum.
- iii) Knowledge of surface hardening processes used on aircraft metals.
- iv) Knowledge of identification and physical characteristics of commonly used composite materials, plastics, sealants and rubbers and their inspection and repair.
- v) Detailed knowledge of metallic materials used in aircraft structure; the types of defects associated with them; inspection for deterioration, and methods of rectification and re-protection; procedures for testing the soundness of these materials.
- vi) Detailed knowledge of the various types of corrosion commonly encountered on aircraft metals, their removal and methods employed to prevent corrosion.
- viii) Knowledge of use of hardness testing machines, various types of hardness no. and surfaces finishes.

### b) Aerodynamics

- i) Knowledge of the characteristics of the subsonic, transonic and supersonic airflow and the various terms used therein.
- ii) Knowledge of the characteristics of the aero foils used for subsonic and transonic flights.
- iii) Knowledge of the forces acting on the Aircraft during all phases of flight.
- iv) Detailed knowledge of Aircraft Stability and Control.
- v) Knowledge of the effect of altitude, weight, changes of engine power on performance of the aircraft.
- vi) Knowledge of various types of high lift and drag devices, their operation, vortex generators, boundary layer fences etc.
- vii) Knowledge of Sweepback wing; High incidence tail plan; aerodynamic loading; super stall; load factors; aquaplaning; fly by wire concept.

### c) Aircraft Structures

- i) General understanding of the various types of structures used in Aircraft construction, Station Nos.
- ii) Knowledge of fail-safe and safe-life concept.
- iii) Knowledge of such terms as damage tolerance, ageing aircraft, SSID.

### d) Aircraft Systems; General knowledge of the function, maintenance and inspection of the following:

- i) Structure and structural components constructed from metal, glass fiber, glass reinforced plastic, vinyl, Perspex.
- ii) Furnishing materials, paints, surface finishes and associated materials.
- iii) Elementary flight controls including power operated/assisted flight controls; hydraulics; pneumatics; landing gear; brakes; nose wheel steering; wheels; tyres; antiskid; ice and rain protection; fire detection and protection, warning and extinguishing; oxygen; air-conditioning and pressurization system; lifesaving equipment including inflatable slides, dinghies and rafts.
- iv) Windows, doors and emergency exits.

- e) **Aircraft Instruments and Equipments**
- i) Elementary knowledge of the operational principles of all instruments (except the engine related instruments).
  - ii) Knowledge of construction of various types of Direct Reading compass, various related terms used in electricity/magnetism and compass swing precautions and procedures.
- f) **Inspection of Aircraft**
- i) Knowledge of minor defects and various methods of rectification and repair of minor defects, rigging of aircraft, periodical inspection necessary to check the serviceability of the aircraft, inspection of the Aircraft after heavy landing, lightning strike and abnormal flight loads, preparation of a brief report with the help of sketches if necessary in case of damage to the Aircraft.
  - ii) Knowledge of terms related to aircraft weighing, preparation/precaution and method of weighing the aircraft.
  - iii) Knowledge of duplicate inspection of control systems.

**Syllabus for Mechanical Stream (Airframe system) Rotary Wing for Junior AME(DC)**

- a) The various terms used in helicopter construction and the functioning of each component part of the Helicopter.
- b) Aerodynamics and theory of flight of the helicopter and theory of flight controls.
- c) Preparation of a brief report, illustrated by sketches if necessary describing the replacements required in the event of damage, defect or wear.
- d) The inspection and checks for alignment after assembly of the helicopter structural components.
- e) The correction of faults experienced in flight with particular reference to rigging and control settings and the inspection during and after the adjustment of flying controls.
- f) General maintenance (including equipment) and minor repairs.
- g) The assembly of Helicopter structure, with reference to the assembly and functioning of the rotors including transmission.
- h) A knowledge of the function, maintenance and inspection of helicopter structure and structural components, doors and windows; flying control systems and servo units; transmission systems including main rotor head and tracking of main and tail rotor blades; gear boxes; free-wheels units; main rotor brakes, shafts and couplings, electric, hydraulic, pneumatic and fuel systems; landing gear (including shock struts and retracting devices), wheels, tyres, brakes, ice and rain protection systems; fire warning and extinguishing systems etc.
- i) A general knowledge of the inspection and checks required after heavy landings, lightning strikes and abnormal flight loads.
- j) Periodic inspections necessary to check the serviceability of life saving and safety equipment.
- k) Knowledge of the principles of operation, function, testing and calibration to determine serviceability of pressure, gyroscopic, simple a.c. and d.c. Operated instruments, Pitot systems and automatic pilots.
- l) A knowledge of, and the precautions taken during airframe maintenance, jacking, towing, braking, ground de-icing, supplying ground power, refueling and de-fuelling etc.
- m) A detailed knowledge of procedure and precautions necessary to avoid deterioration of airframe and associated equipment when the Helicopter is out of use for extended periods.



**Syllabus for Mechanical Stream (Engine System) Fixed and Rotary Wing for Jr. AME (DC)**

**a) Gas Turbine Engine Theory and Construction**

- i) A general knowledge of the thermodynamics laws related to gas turbine engines.
- ii) General knowledge of the Otto Cycle and Bray ton's Cycle and the relationship between volume, temperature and pressure.
- iii) A general knowledge of the terms used in the theory of gas turbine engines and calculation of parameters from the given data.
- iv) Advantage and disadvantage of various types of gas turbine engines.
- v) Knowledge of the function, construction, classification and material of the various parts and accessories of the engine including the induction, exhaust, cooling system, thrust augmentation and engine mounting, ant icing of engine.
- vi) Knowledge of various factors affecting the engine performance.
- vii) Knowledge of condition monitoring and performance monitoring of gas turbine engines.
- viii) Detailed knowledge of the engine fire detection and protection systems.

**b) Engine Fuel and Oil System**

- i) Knowledge of the principle of operation and constructional features of fuel control units.
- ii) Knowledge of constructional features, function of the components of engine fuel control system/metering system.
- iii) Knowledge of types, characteristics of aviation fuel, common sources of contamination and methods to prevent such contamination. Method to check contamination with precautions.
- iv) Knowledge of types, characteristics of lubricants used in gas turbine engine lubrication system. Identification of contaminants with interference drawn.
- v) Detailed knowledge of function of various components of lubrication system.

**c) Ignition and Starting System**

- i) Knowledge of principle of operation, constructional features and function of Ignition system components. Types of ignition; flame propagation.
- ii) Knowledge of constructional features and function of various types of engine starters.

**d) Engine Instruments**

- i) Knowledge of the principle of operation of the engine instruments and detailed knowledge of replacement and in-situ operational tests thereof.

**e) Power Augmentation System**

- i) Knowledge of principle of operation and function of various types of power augmentation devices.

**f) Propeller**

- i) A general understanding of the propeller terms.
- ii) A general knowledge of the purpose and the function of all parts of a constant speed, variable pitch and feathering propeller and their associated control system components.

g) **Thrust Reversers**

Knowledge of constructional features and function of various types of thrust reversers and their related components.

h) **Auxiliary Power Unit**

General knowledge of the purpose, constructional features of the compressors, combustion chambers and turbine arrangement; speed and load control; limiting factors, fire protection and indication; detailed knowledge of its operational features.

i) **Bleed Control System**

Terms related to bleeding of air from the engine; compressor surge, compressor line; compressor stall; Bleed loads and condition under which the bleed is tapped.

j) **Air Oil System**

Knowledge of the air oil system used on a typical gas turbine engine.

k) **Engine Maintenance**

- i) Knowledge of trouble shooting of minor defects and methods of their rectification; rigging of engine controls and field adjustments of fuel control unit; periodical inspections necessary to check the serviceability of the engine; special inspection schedule; duplicate inspection of engine controls.
- ii) Detailed knowledge of engine starting; ground run-up; trimming; and checking of the performance of the engine and its components including systems.
- iii) Knowledge of engine preservation and de preservation procedures.

**Syllabus for Avionics Stream (Electrical System) Fixed and Rotary Wing for Jr. AME(DC)**

a) **Electrical Theory**

- i) Detailed knowledge of Ohm's law, Kirchhoff's laws and Electro-magnetic induction; their applicability in the aircraft industry.
- ii) Detailed knowledge of the Alternating Current and calculation of instantaneous value, RMS value, frequency and amplitude from the given data; star and delta connections and calculation of power in three phase system.
- iii) Detailed knowledge of series and parallel resonance of AC circuits and their use; calculation of resonant frequency of a circuit from a given information; effect of change in the frequency on the impedance, current and phase angle.
- iv) Detailed knowledge of the composition, performance (stability and tolerance) and limitations of the fixed resistors (carbon composition, carbon films, wire wound and metallic film) and description of various types of variable resistors (wire wound, carbon film, thermistor and voltage dependent resistors and barristers).
- v) Knowledge of the resistor colour codes, value and tolerance and the system of preferred values and ratings.



- vi) Detailed knowledge of the construction, principles of operation, application and colour coding of various types of capacitors.
- vii) Detailed knowledge of Circuit Controlling and Current Protection Devices.

**b) Aircraft Batteries**

- i) Knowledge of the construction and principle of operation of Lead acid and Nickel Cadmium batteries, composition of electrolytes and plates.
- ii) Knowledge of the effect of temperature on capacity, specific gravity, electrolyte resistivity, charger and discharger rates, effect of specific gravity on freezing temperature and resistivity of electrolytes.
- iii) Knowledge of methods of charging of batteries, precautions and procedures during charging; mixing and neutralization of electrolytes; importance of ventilation of battery compartments.
- iv) Knowledge of the inspections to determine conditions and serviceability of batteries; common battery defects and their rectification.

**c) Generators and Motors**

- i) Knowledge of the construction, principle of operation and characteristics of DC and AC Generators and Motors.
- ii) Knowledge of the construction, principles of operation of voltage regulations; and paralleling of generators.
- iii) Detailed knowledge of the functional tests, adjustments and trouble shooting of generators and motors.
- iv) Knowledge of speed control and reversing and direction of motors.

**d) Servomechanisms and Amplifiers**

- i) Knowledge of construction and principles of autotransformers, single and three transformers.
- ii) Knowledge of construction and principle of operation of saturable reactors and magnetic amplifiers; bias; phase sensitive half wave and inputs and outputs polarity sensitive inputs and outputs, polarity sensitive inputs and outputs, push pull outputs and effects of stage gains and cascading on time response.
- iii) Knowledge of construction, principle and operation of servo-motors and rate generators; system response to displacement (position) and rate (velocity) command signals; purpose of pull-up and rate feedback signals; causes of haunting and methods of damping. Troubleshooting of servomechanism.

**e) Test Equipment**

- i) Knowledge of the construction, principle of operation, use and precautions to be observed for aircraft test equipments.

**f) Bonding and Scanning**

- i) Knowledge of purpose of bonding and shielding and difference between the two, precaution, methods employed; minimum acceptable standards for insulation and bonding; and testing.
- ii) Detail knowledge of aircraft wiring system; procedure of laying of electrical cables and precautions to be taken thereof.

**g) Electronic**

- i) Knowledge of the basic principles of thermionic.
- ii) Knowledge of properties of semiconductor materials.
- iii) Knowledge of construction, symbols, operation and anode characteristics of vacuum and gas-filled tubes; knowledge of their construction and application.
- iv) Knowledge of construction, symbols, doping process, operation, application and characteristics of PNP and NPN transistors; comparison with vacuum tubes.
- v) Knowledge of use and theory of oscillators and multi vibrators.
- vi) Knowledge of symbols, truth tables and equivalent circuits for logic gates.
- vii) Knowledge of the terms, operation and application of Flip Flop logic.
- viii) Knowledge of the terms used, basic operation, interfacing of the major components of a computer.
- ix) Knowledge of operation, use and types of Medium Scale Integration (MSI) Devices.
- x) Knowledge of the types and operation of displays (LED) Liquid Crystal etc.).
- xi) Knowledge of CRTs and its application.
- xii) Knowledge of functions performed and overall operation of a microprocessor.
- xiii) Knowledge of handling of microelectronic circuit devices (Electrostatic Sensitive Device (ESD).

**h) Aircraft System**

- i) Knowledge of principle of operation, inspection and trouble shooting of aircraft gallery equipments, aircraft lights, and electrical components and indicating circuits for Landing Gear, Flap System and Air-Conditioning system etc.
- ii) Knowledge of operation and inspection of Aircraft Fire and Smoke Detection and Protection System.

**i) Power Distribution**

Knowledge of electrical power distribution systems, the operation and construction of static inverters, rotary inverters and transformers rectifier unit.

**Syllabus for Avionics Stream (Instrument System) Fixed and Rotary Wing for Jr. AME(DC)**

**a) Terminology and Conversation**

Knowledge of the general instrument terminology; conversions of measuring units from one system to another.

**b) General Concepts**

- i) Knowledge of atmosphere.
- ii) Knowledge of fundamentals of electricity.
- iii) Knowledge of principle of operation and characteristics of DC and AC Generators and Motors; and speed control and reversing the direction of motors.
- iv) Knowledge of principle of operation of transformers and amplifiers.



- v) Detailed knowledge of the construction, principle of operation of servomotors and rate generators and system response to displacement (position) and rate (velocity) command signal; purpose of pull-up and feedback signals; cause of hunting and methods of damping; troubleshooting of servo-mechanism.
- vi) Knowledge of basic principle of thermionic and properties of semi-conductor materials.
- vii) Knowledge of symbols, truth tables and equivalent circuits for logic gates.
- viii) Knowledge of the terms used, basic operation and interfacing of major component of computer.
- ix) Knowledge of the types and operation of displays (LED, Liquid Crystal etc).
- x) Knowledge of CRTs and its application.
- xi) Knowledge of functions performed and overall operation of a microprocessor.
- xii) Knowledge of handling of microelectronic circuits devices (Electrostatic Sensitive Device (ESD)).
- xiii) General understanding of the terms relating to Theory of Flight; Longitudinal Axis, Lateral Axis and Vertical Axis, Yawing, Rolling, pitching, Azimuth Heading, Course, Side slip, skidding, Coordinated turn, stability, angle of attack, chord, Stall, lift, drag, thrust, General knowledge of the purpose and action of primary control surfaces, trim tabs and wing flaps.
- xiv) Knowledge of the principle of operation, construction and characteristics of pressure sensitive and temperature sensitive elements.
- xv) Knowledge of the principle of operation, constructional features and characteristics of Gyroscopes.

c) **Aircraft Instruments and systems**

- i) Knowledge of principle of operation and construction; detailed knowledge of procedures of replacement, field maintenance, functional testing and trouble shooting of : Altimeters, Airspeed Indicators, Vertical Speed Indicators, Pitot heads, pitot static lines, static selectors and moisture traps;
- ii) Air Driven Gyros, Artificial Horizon and Turn and bank Indicators; Venturi tubes, vacuum pumps, relief valves regulators, check valves and filters; turn and bank indicators operated by direct gauges;
- iii) Capillary tube type pressure and temperature gauges; position Indicators operated by Direct Current; Fluid Quantity Indicators operated by Direct Current and capacitors; Wheatstone bridge; ratio meter and thermocouple type temperature indicators; Three Phase engine rpm indicators and synchrosopes; Centrifugal governor type and magnetic drag-cup type engine rpm indicators; Direct reading and remote reading compasses; AC operated gyro instruments; AC synchro instruments.

d) **Autopilot System**

- i) Knowledge of function and operation of components in a typical Autopilot system; responses of the system in flight and during functional checks on ground.

e) **Oxygen System**

Knowledge of function, layout and features of components of typical oxygen system; and detailed knowledge of the replacement procedures and safety precautions to be observed.

f) **Inertial Navigation System**

Knowledge of principles of operation and function of the components of Inertial Navigation System.

g) **Satellite Communication**

Elementary principle of satellite Communication and its application to aircraft.

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