

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

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List of documents submitted in support of the Qualifications File

1. Syllabus of OJT and continuity classes held at field units (Annexure-I)
2. Air Force Order (AFO) 57/15 specifying the role of Electrical Fitter (Annexure-II)

SUMMARY

1. Qualification Title	CPL: Electrical Fitter
2. Qualification Code	IAF/Elect/081
3. NCO Code and Occupation	7412.0600, Aircraft Electrician; 7412.0700, Electrician Automobile; 7419.0500, Battery Servicing Man; 5411.9900, Fire fighter others; 7421.0401, Field Technician A/C, 7421.0801, Field Technician: UPS and Inverter; 5414.011, Security Supervisor
4. Nature and purpose of the qualification	A trade and rank certificate to the personnel with adequate knowledge and skill to perform the duties of Corporal in the Electrical & Instrument Section.
5. Body/bodies which will award the qualification	Regional Examining Board (Zonal) [REB(Z)]
6. Body which will accredit providers to offer courses leading to the qualification	Directorate of Training (D Trg), Air HQ
7. Whether accreditation/affiliation norms are already in place or not (if yes, attach a copy)	N/A as specific to Defence Forces
8. Occupation(s) to which the qualification gives access	Corporal(Cpl) of Electrical Fitter
9. Job Description of the Occupation	Diagnosis of intricate faults and their rectification, maintenance and operation of various Electrical/Instruments/Photo equipment. Maintenance , operation and fault rectification of Diesel/Petrol Generators, Batteries/Electrical systems of mechanical transport, Arial photographic equipment, Flight Data Recorder, Air Conditioners, electrical systems of Aircraft/Missile/Specialist Vehicles at 1 st , 2 nd & 3 rd line level. Undertaking installation of complex assemblies pertaining to his trade. For details refer Annexure: II
10. Licensing requirements	N/A
11. Statutory and regulatory requirements of the relevant sector (documentary evidence	Air Force Act, Air Force Regulations, Air Force Orders.

to be provided)	
12. Level of the qualification in the NSQF	5
13. Anticipated volume of training/learning required to complete the qualification	On Job Training : 650Hrs
14. Indicative list of training tools required to deliver this qualification	Classroom with modern AV aids, working models of Electrical equipment like Battery charging room, DC & AC motors, AC & DC Generators, Basic Workshop machines, Aircraft testing testers, Digital cameras & Video Cameras, Computing appliances, Fire arms, Range firing, Ground training.
15. Entry requirements and/or recommendations	Qualification: Should have passed Test of Skill- CPE Should have 5 years of service
16. Progression from the qualification	Job Progression Cpl*→Sgt*→JWO*→WO→MWO * Subject to clearing promotion exam for Sergeant (Sgt) and Junior Warrant Officer (JWO)called as Sergeant Promotion Exam (SPE) and Junior Warrant Officer Promotion Exam (JPE)
17. Planned arrangements for the Recognition of Prior learning (RPL)	N/A as each stage is complete
18. International comparability where known	Not known
19. Date of planned review of the qualification.	Every 5yrs/earlier in case of change in training syllabus pattern.

20. Formal structure of the qualification			
Title of component and identification code.	Mandatory/ Optional	Estimated size (learning hours)	Level
1. Knowledge of construction, principle of operation and function of complex instruments such as flight data recorder, head up display zero reader gun sight and auto pilot etc. IAF/ Elect /081/01	M	100	5
2. Knowledge about Construction, operation and servicing of gyro test table, Detailed knowledge on construction, operation and functional testing of aircraft instruments. IAF/ Elect /081/02	M	120	5
3. Knowledge of documentation, modification procedure, store procedure, working knowledge of graphical representation and regulation of packing & storing etc. IAF/ Elect /081/03	M	130	5
4. Knowledge of various airborne photo equipment. IAF/ Elect /081/04	M	100	5
5. Knowledge of servicing of Missile ground electrical equipment and rectification of minor defects. IAF/ Elect /081/05	M	100	5
6. Knowledge of servicing of ground electrical equipment including Mechanical Transport. IAF/ Elect /081/06	M	100	5
TOTAL		650	

Syllabus of all OJT and Continuity Training annexed as Annexure-I

SECTION 1
ASSESSMENT

21. Body/Bodies which will carry out assessment:

Regional Examining Boards (REB Zonals) under Ground Crew Examining Board.

22. How will RPL assessment be managed and who will carry it out?

N/A

23. Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

(a). Assessment will be carried out by Regional Examining Boards (Zonal) under the aegis of Ground Crew Examining Board (GEB). The examining boards have all necessary infrastructures and a pool of qualified, highly experienced examiners to carry out such assessments. Presently the board is conducting examinations for all trades (technical trades considered equivalent to Diploma Courses as recognized by AICTE). The promotion examinations are conducted by REB (Zonal) under the aegis of GEB twice a year.

(b). Examination consists of following parts.

(i) Online examination for General Education and System Theory (Specific to trade) for 50 marks each. The air warrior has to score 50% marks in each paper.

(ii) Viva-Voce for 25 marks and practical examination for 75 marks and the air warrior has to score 60% marks in aggregate.

(aa) Practical Exam to test the :

(i) Professional Skill

(ii) Core Skill of the Air warrior

(ab) Viva Voce to gauge the overall knowledge, and its application in resolving an issue.

(c). IAF has a well-defined appraisal system covering all aspects of an Air Warrior ranging from personal traits to professional performance. The Air Warrior is assessed once a year based on his performance resulting in a realistic evaluation.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

24. Assessment Evidences

Title of Component:

Air warrior should have knowledge of a Leading Aircraftsman and in addition should have a detailed knowledge of following:-

Outcomes to be assessed	Assessment criteria for the outcome
1. Knowledge of construction, principle of operation and function of complex instruments such as flight data recorder, head up display zero reader gun sight and auto pilot etc.	<p>Should be able to undertake the following activities-</p> <ul style="list-style-type: none"> (i) Servicing of all special and complex instruments. (ii) Use of all types of test and calibration equipment. Functional checks on all types of instruments and their installations. (iii) Assistance in embodiment of all modifications, STIs, Sis on instrument installation systems. (iv) Diagnosis of intricate faults and their rectification. (v) Undertaking installation of complex assemblies of an aircraft. (vi) Carry out complete procedure of tarmac management.
2. Knowledge about Construction, operation and servicing of gyro test table, Detailed knowledge on construction, operation and functional testing of aircraft instruments.	<ul style="list-style-type: none"> (i) Servicing of gyro test tables, mono-meters, various types of jigs, fixtures and special tools used for overhaul. (ii) Servicing of electrically operated components of GGS recorder. (iii) Stripping, inspection, reconditioning, calibration and adjustment of aircraft instruments in Instrument Repair Section. (iv) Manufacturing small parts of instruments involving the use of hand tools, soldering and brazing. (v) Servicing of amplifiers and rectifiers used in instrument installations. (vi) Storage, packing, preservation of all types of instruments and associated equipment. (vii) Assist in up keeping of section Lock-up, tool store.
3. Knowledge of documentation, modification procedure, store procedure, working knowledge of graphical representation and regulation of packing & storing etc.	<ul style="list-style-type: none"> (a) Assists in maintenance of records and documentation. (b) Assists in the embodiment of modifications, STIs and SIs. (c) Carries out amendment in Air publication. (d) Assists SNCO in stores procedure. (e) Gives On job instructions to his junior, assists in assessing damage to electrical equipment and determining the extent and practicability of repair. (f) Calibration and repair of all types of test equipment in

	<p>the section.</p> <p>(g) Assists in compilation of defect report and investigation of defects.</p> <p>(h) Maintains statistics, charts, APs, Tech order etc.</p> <p>(j) Does packing, preservation and storage of all types of electrical equipment.</p> <p>(k) Operation and maintenance of UPS.</p>
4. Knowledge of various airborne photo equipment.	<p>(a) Installation of camera on all types of reconnaissance.</p> <p>(b) Assists in raising defect and technical reports on airborne photo equipment.</p> <p>(c) Assists in operating and maintaining stores.</p>
5. Knowledge of servicing of Missile ground electrical equipment and rectification of minor defects.	<p>(a) Up to 3rd line servicing of ground electrical equipment including MT.</p> <p>(b) Rectification of minor defects and replacement of defective components.</p> <p>(c) Testing and calibration of all ground electrical equipment, ability to use all types of test equipment applicable to his trade.</p> <p>(d) Highly skilled tasks in all lines of servicing i.e. up to 4th line servicing on all ground electrical equipment including MT, special vehicles, arrestor barrier and ignition system.</p> <p>(e) Detection of intricate faults and their rectification.</p> <p>(f) Embodiment of Mods, STIs and SIs.</p> <p>(g) Rigging up of simple test circuits.</p>
6. Knowledge of servicing of ground electrical equipment including Mechanical Transport.	<p>(a) Up to 3rd line servicing of ground electrical equipment including MT.</p> <p>(b) Rectification of minor defects and replacement of defective components.</p> <p>(c) Testing and calibration of all ground electrical equipment, ability to use all types of test equipment applicable to his trade.</p> <p>(d) Highly skilled tasks in all lines of servicing i.e. up to 4th line servicing on all ground electrical equipment including MT, special vehicles, arrester barrier and ignition system.</p> <p>(e) Detection of intricate faults and their rectification.</p> <p>(f) Embodiment of modifications, STIs and SIs.</p> <p>(g) Manufacture of simple parts of electrical equipment</p> <p>h) Rigging up of simple test circuits.</p> <p>(j) Operation and maintenance of UPS.</p>

Means of assessment 1

There will be two types of Assessments viz. Formative and Summative. The Formative Assessment will be carried out continuously during the conduct of training by giving assignments & projects and Summative Assessment will be carried out at the end of the training by considering performances in theory and practical examinations.

Means of assessment 2

Details of examination conducted by REB (Zonal):-

- | | |
|---------------------------------------|---------------------------------------|
| (a) Written test for Theory component | 100 Marks- Passing percentages is 50. |
| (b) Job practical | } 75 Marks |
| (c) Viva voce | |

Pass/Fail

The minimum qualifying standard is 50% marks in each part and 60% in aggregate of all parts of Theory/Practical Exam conducted by REB (Z). Those who score above 80% are declared as Skill grade 'A'.

Pass within three attempts.

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SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: Corporal of Electrical Fitter			Level: 5
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	Air warrior is adequately trained to undertake any task independently without any error. Air Warriors will have wide range of specialized technical skill, clarity of knowledge & practice to carry out all the jobs of Electrical, Instrument, Photography, Specialist vehicles and Electrical Missile systems.	Personnel are able to identify the maintenance issues pertaining to Electrical, Instrument and photograph systems. They are able to maintain these systems as per procedure and rectify the faults.	5
Professional knowledge	Air warrior can accomplish the task assigned to him in a most befitting manner and on time. He does not need any type of supervision for all types of tasks task except those activities which specifically warrant for a higher level supervision. Air Warrior possesses factual and theoretical knowledge in broad context within their area of work. Can demonstrate the following 1. Air Warriors are able to comprehend modifications on the system and technical instructions. 2. Air Warriors are able to understand the operation of standard testing procedures	1. Air Warriors are able to acquire basic knowledge on bay servicing, overhaul and reconditioning procedures of electrical equipment, function, modifications and operation of various electrical systems. Air warriors are capable to identify the cause for the malfunctioning of any system and institute necessary remedial action under supervision. 2. Air warriors should have the knowledge of various tools, testers and ground equipment used for bay servicing and also the scale of tools related to electrical system.	5

Title/Name of qualification/component: Corporal of Electrical Fitter			Level: 5
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
	3. Air Warriors are able to know the scale of tools / equipment related to electrical fitter systems		
Professional skill	Air warrior is fully trained to find out the problem areas and to rectify them appropriately to ensure timely and effective completion of the task. Air Warriors have a range of cognitive and practical skills required to search solutions to the problems encountered during work. Able to carry out maintenance/repair with all advanced test equipment.	Ability to identify the cause of problem and understand the consequences it can likely lead to. Initiate corrective measures after consultation with the seniors	5
Core skill	Air Warriors have good mathematical calculation, understanding of social, political and reasonably good in data collecting & organising information. They can demonstrate the following :- 1. Can communicate effectively within Air Force and outside agencies 2. Can understand the servicing manuals and technical instructions in English 3. Air Warriors have computer knowledge	Air Warriors have communication skill, arithmetic skills, computer skill and basic understanding of social and natural environment. Air warriors have good computer literacy to work in Power point, Excel, Access etc.	5

Title/Name of qualification/component: Corporal of Electrical Fitter			Level: 5
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Responsibility	Air warrior is suitably and adequately trained to be more responsible and proactive approach towards undertaking any tasks. Air Warriors can shoulder responsibility of own work & learning in their sphere of work	With sound knowledge of the system the Air Warriors are able to carry out maintenance, servicing and repair and take responsibility of the work assigned to him. He also guides junior members of his team and is partially responsible.	5

SECTION 3
EVIDENCE OF NEED

26. What evidence is there that the qualification is needed?

In IAF many types of sophisticated and costly electrical equipment and instruments are used both in ground system as well as in aircrafts. These personnel should be able to carry out day to day operation and maintenance of these equipment, also they should be able to undertake minor defect either at their own or under the guidance of a supervisor so that serviceability of all the equipment is always maintained at optimum level.

What is the estimated uptake of this qualification and what is the basis of this estimate?

Is based on the cadre and actual figures cannot be revealed

27. Recommendation from concerned Line Ministry of Govt/Regulatory Body. To be supported by documentary Evidences

The trade has been cleared by MoD and notification to the same effect is confidential in nature.

28. What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?

This qualification is especially tailor made to suit the organizational requirements. In some parts it does have some similarity with civil agency as regards to some portion of the syllabus for which the NOS have been equated.

29. What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

IAF has well defined Directorates responsible for monitoring both the training and testing aspects. **Directorate of Training** is responsible for ensuring that right training is imparted to the recruits. The syllabus is based on various studies and feedback received from field units/ REB (T).

Directorate of Education is responsible for Trade Testing and evaluation of the knowledge and skill level of the personnel passing out from the training institute and their performance in field units.

This qualification will be reviewed and revised in two steps:-

- (a). Skill Gradation Tests being conducted twice a year by REB (Z)
- (b). Well defined appraisal system (through Annual Confidential Reports, based on individual's performance).

SECTION 4
EVIDENCE OF PROGRESSION

30. What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

(a). On completion of the training at Training Institute, an Air Warrior will be posted to the field unit, where he will undergo OJT. On successful completion of OJT the Air Warrior will work in Electrical /Instrument/Missile/Plant Maintenance sections where he learns maintenance and repair of electrical systems.

(b). An Air Warrior is promoted to the rank of Cpl after 05 years from date of enrolment. He will further keep climbing the promotion ladder by appearing for SPE for Sgt and JPE for JWO ranks. As per new policy in vogue, ACRs have been linked to skill levels. So, he will be motivated to enhance his skill levels and get them tested by appearing for SGT (Skill Gradation Test).

The progression flow is given below.

Cpl*→Sgt*→JWO*→WO→MWO

*Subject to clearing promotion exam for Cpl, Sgt and JWO called as CPE, SPE and JPE

Annexure-I

(Syllabus of OJT and continuity classes conducted at field units)

SYLLABUS AND ALLOCATION OF HOURS FOR OJT AND CONTINUITY CLASSES

SL NO	SUBJECT	TRAINING PERIODS		
		Theory	Theory Practical	Total
1.	Initial filling and charging of batteries	10	20	30
2.	Routine changing, capacity test and maintenance of Batteries	5	15	20
3.	Operation and maintenance of DG set	10	20	30
4.	AC Power supply and distribution system	10	20	30
5.	Operation and maintenance of rectifiers for conversion of AC to DC	6	10	16
6.	Power supply stabilization	5	10	15
7.	Standby power supply system	5	10	15
8.	Domestic house wiring	10	20	30
9.	Various protection and earthing system	5	10	15
10.	Operation of Air-conditioning and refrigeration system	10	15	25
11.	Maintenance of Air-conditioning and refrigeration system e.g. Leak Test & Refrigerant Charging	8	10	18
12.	Operation and maintenance of Digital Multimeter	5	15	20
13.	General Basic Workshop technology e.g. Soldering, Brazing, skinning, tinning, crimping etc.	10	25	35
14.	Uses of basic digital components	6	15	21
15.	Maintenance of Mechanical Transport Electrical system	16	34	50
16.	Handling and management of Air Force Inventory through IMMOLS	4	10	14
17.	Practice		265	265
Total		125	525	650

Annexure-II

[Air Force Order (AFO) 57/15
specifying the role of Electrical
Fitter (R)]

ELECTRICAL FITTER : GROUP 'X' CORPORAL

Tasks performed	Posses knowledge to carry out the tasks
<p>1. Undertakes the entire range of work of a leading aircraftman independently and undertake supervisory Jobs (if cleared by CEO). In addition, performs the duties listed below under supervision:-</p> <p><u>Task pertaining to Instrument</u></p> <p><u>(a) Daily Servicing Section.</u></p> <p>(i) Servicing of all special and complex instruments. (ii) Use of all types of test and calibration equipment. Functional checks on all types of instruments and their installations. (iii) Assistance in embodiment of all modifications, STIs, Sis on instrument installation systems. (iv) Diagnosis of intricate faults and their rectification. (v) Undertaking installation of complex assemblies of an aircraft. (vi) Carry out complete procedure of tarmac management.</p>	<p>1. Should have sound knowledge of advance electronics, theory of semiconductors and integrated circuit pertaining to modern instrumentation system. Should have knowledge of computer as applicable to newly inducted aircraft.</p> <p>(i) Should have the knowledge of construction, principle of operation and function of complex instruments such as flight data recorder, head up display zero reader gun sight and auto pilot etc. (ii) Procedure of carrying out 2nd line servicing on all types of special and complex instruments and documentation. (iii) Thorough knowledge of test and calibration equipment used in the service. Method of testing of various types of instruments including special and complex instruments fitted in the aircraft. (iv) Purpose, types of modification, STIs, Sis and their documentation (v) Defect rectification procedure. (vi) Should have thorough knowledge of instrument systems of the aircraft. (viii) Should have knowledge complete procedure of tarmac management</p>

<p><u>(b) Instrument Repair Section/ Calibration Room.</u></p> <p>(i) Servicing of gyro test tables, mono-meters, various types of jigs, fixtures and special tools used for overhaul.</p> <p>(ii) Servicing of electrically operated components of GGS recorder.</p> <p>(iii) Stripping, inspection, reconditioning, calibration and adjustment of aircraft instruments in Instrument Repair Section.</p> <p>(iv) Manufacturing small parts of instruments involving the use of hand tools, soldering and brazing.</p> <p>(v) Servicing of amplifiers and rectifiers used in instrument installations.</p> <p>(vi) Storage, packing, preservation of all types of instruments and associated equipment.</p> <p>(vii) Assist in up keeping of section Lock-up, tool store.</p> <p>(viii) Assists in compilation of defect report and investigation of defects.</p> <p>(ix) Maintains statistics, charts, APs, Tech order etc.</p> <p>(x) Carry out complete procedure of tarmac management.</p>	<p>(i) Construction, operation and servicing of gyro test table, use of all jigs fixtures and special tools used during overhaul.</p> <p>(ii) Principle of operation of GGS recorder.</p> <p>(iii) Detailed knowledge on construction, operation and functional testing of aircraft instruments.</p> <p>(iv) Advanced workshop practice, metallurgy and manufacture of small components using hand tools.</p> <p>(v) Sound knowledge of rectifiers and amplifiers used in instrument ground installation.</p> <p>(vi) Basic knowledge on regulation for packing, preservation and storage.</p> <p>(vii) Knowledge on Demand Return and exchange of equipment procedure maintenance of inventories, schedule of spare parts and its usage.</p> <p>(viii) Should have knowledge complete procedure of tarmac management</p>
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<p><u>Task pertaining to Electrical</u></p> <p>(a) Assists in maintenance of records and documentation.</p> <p>(b) Assists in the embodiment of modifications, STIs and SIs.</p> <p>(c) Carries out amendment in Air publication.</p> <p>(d) Assists SNCO in stores procedure.</p> <p>(e) Gives „On job” instructions to his junior, assists in assessing damage to electrical equipment and determining the extent and practicability of repair.</p> <p>(f) Calibration and repair of all types of test equipment in the section.</p> <p>(g) Assists in compilation of defect report and investigation of defects.</p> <p>(h) Maintains statistics, charts, APs, Tech order etc.</p> <p>(j) Does packing, preservation and storage of all types of electrical equipment.</p> <p>(k) Operation and maintenance of UPS.</p>	<p>(a) Forms, documentation and log books.</p> <p>(b) Modification on procedure and classification of modification, STIs and SIs.</p> <p>(c) Lay out of APs and manufactures publication and their amendments procedure.</p> <p>(d) Classes of stores and equipment procedure.</p> <p>(e) Electrical engineering practices.</p> <p>(f) Constructional details of all types of test equipment used in the trade, their repair and testing procedure.</p> <p>(g) Procedure of reporting and investigation of defects.</p> <p>(h) Working knowledge of graphical representation of statistics.</p> <p>(j) Regulation for packing, preservation and storage of equipment.</p> <p>(k) Should have knowledge of operation and maintenance of UPS</p>
<p><u>Task pertaining to airborne Photo</u></p> <hr/> <p>(a) Installation of camera on all types of reconnaissance.</p> <p>(b) Assists in raising defect and technical reports on airborne photo equipment.</p> <p>(c) Assists in operating and maintaining stores.</p> <p><u>Task pertaining to Missile Eqpt</u></p> <p>(a) Up to 3rd line servicing of ground electrical equipment including MT.</p> <p>(b) Rectification of minor defects and</p>	<p>(a) Methods of installation of camera in various types of aircraft, test and check after installation.</p> <p>(b) Methods of preparation of defects and technical reports, procedure for reporting defects.</p> <p>(c) (i) Schedule of spares parts and its usage. (ii) Equipment procedures.</p> <p>(a) Construction details of all ground electrical equipment up to 3rd line servicing procedure.</p> <p>(b) Defects rectification procedure.</p>

- replacement of defective components.
- (c) Testing and calibration of all ground electrical equipment, ability to use all types of test equipment applicable to his trade.
 - (d) Highly skilled tasks in all lines of servicing i.e. up to 4th line servicing on all ground electrical equipment including MT, special vehicles, arrester barrier and ignition system.
 - (e) Detection of intricate faults and their rectification.
 - (f) Embodiment of Mods, STIs and SIs.
 - (g) Rigging up of simple test circuits.

Task pertaining to Power Plant

- (a) Up to 3rd line servicing of ground electrical equipment including MT.
- (b) Rectification of minor defects and replacement of defective components.
- (c) Testing and calibration of all ground electrical equipment, ability to use all types of test equipment applicable to his trade.
- (d) Highly skilled tasks in all lines of servicing i.e. up to 4th line servicing on all ground electrical equipment including MT, special vehicles, arrester barrier and ignition system.
- (e) Detection of intricate faults and their rectification.
- (f) Embodiment of mods, STIs and Sis.
- (g) Manufacture of simple parts of

- (c) Testing and calibration procedure of all types of ground electrical equipment, principle of operation and use of all types of electrical test equipment.
- (d) (i) Practical knowledge of repair and servicing of ground electrical equipment upto 4th line servicing such as starter, generator, dynamo of MT. Causes of various types of running faults and method of rectification layout of components and accessories in the system.
- (ii) Advanced knowledge of course of various types of faults and its procedure.
- (e) Construction, function and operation of various component and accessories of all electrical equipment.
- (f) Classification of modification, layout of routine orders and publication, advanced knowledge of engineering drawings and standard electrical circuit diagram.
- (g) Workshop procedure, use of specialist tools and machine tools.
- (h) Electrical circuits and their controls.
- (a) Construction details of all ground electrical equipment up to 3rd line servicing procedure.
- (b) Defects rectification procedure.
- (c) Testing and calibration procedure of all types of ground electrical equipment, principle of operation and use of all types of electrical test equipment.
- (d) (i) Practical knowledge of repair and servicing of ground electrical equipment upto 4th line servicing such as starter, generator, dynamo of MT. Causes of various types of running faults and method of rectification layout of components and accessories in the system.
- (ii) Advanced knowledge of course of various types of faults and its procedure.
- (e) Construction, function and operation of various component and accessories of all electrical equipment.

<p>electrical equipment. (h) Rigging up of simple test circuits. (j) Operation and maintenance of UPS.</p>	<p>(f) Classification of modification, layout of routine orders and publication, advanced knowledge of engineering drawings and standard electrical circuit diagram. (g) Workshop procedure, use of specialist (h) Electrical circuits and their controls. (j) Should have knowledge of operation and maintenance of UPS</p>
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