

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

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List of documents submitted in support of the Qualifications File

1. Curriculum and training contents for Joint Basic Physical Training (JBPT) Annexure- I
2. Curriculum and training contents for Trade Phase Training Term – I Annexure- II
3. Curriculum and training contents for Trade Phase Training Term – II Annexure- III
4. Curriculum and training contents for Trade Phase Training Term – III Annexure- IV
5. Curriculum and training contents for Trade Phase Training Term – IV Annexure- V
6. Air Force Order (AFO) 57/15 specifying the role of Met Assistant Annexure- VI
7. Blue Print Annexure- VII

SUMMARY

1. Qualification Title	AC / LAC: Meteorological Assistant
2. Qualification Code	IAF/Met/170
3. NCO Code and Occupation	3119.0600, Weather Observer; 5414.0151, Armed Security Guard; 5411.9900, Fire Fighter Others
4. Nature and purpose of the qualification	A trade Certificate to equip the air warrior with adequate knowledge and skill to perform the duties and responsibilities of AC/LAC in Meteorological Section of Air Force Units/Station.
5. Body/bodies which will award the qualification	Workshop Training Institute (WTI) and Regional Examining Board (Training)
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	AC/LAC of Met Asst trade,
9. Job Description of the Occupation	To perform the duties of Weather Observer for safe and successful completion of air and ground mission as well as maintenance of Flight Safety. For details refer Annexure- VI
10. Licensing requirements	N/A
11. Statutory and regulatory requirements of the relevant sector (documentary evidence to be provided)	Air Force Act, Air Force Regulations & Air Force Orders.
12. Level of the qualification in the NSQF	4
13. Anticipated volume of training/learning required to complete the qualification	A total of 3858 Hours comprising of:- (a) 1050 Hrs of JBPT (b) 2640 Hours comprising of following four terms:- (i) Trade Phase Training Term –I : 660 Hours (ii) Trade Phase Training Term –II : 660 Hours (iii) Trade Phase Training Term –III : 660 Hours (iv) Trade Phase Training Term –III : 660 Hours (c) On Job Training (OJT) of 168 Hours at Field Unit

<p>14. Indicative list of training tools required to deliver this qualification</p>	<p>Classroom with modern AV aids, weather instruments including thermometers, barometers, and hygrometers to ascertain elements, such as temperature, barometric pressure, humidity, wind velocity, and precipitation as well as computing appliances. Fire Arms, Firing Range, Ground Training Infrastructure.</p>
<p>15. Entry requirements and/or recommendations</p>	<p>Education Qualification: Passed Intermediate / 10+2 / equivalent examination in science stream / subjects approved by Central / State Education Boards with minimum 50% marks in aggregate and 50% marks in English. OR Passed two year vocational course affiliated / recognized by CBSE / State Education Boards/ Councils duly recognized at par with 10+2 by AIU with minimum 50% marks in aggregate, and 50% marks in English in Vocational Course or in Intermediate / Matriculation if English is not a subject in Vocational Course.</p> <p>Age : 17 Yrs -21 Yrs</p> <p>Prerequisite for Trade Phase Training: Air warrior should have successfully completed Joint Basic Phase Training.</p>
<p>16. Progression from the qualification</p>	<p>Job Progression</p> <p>AC→LAC→Cpl*→Sgt*→JWO*→WO→MWO</p> <p>*Subject to clearing promotion exam for Corporal (Cpl), Sergeant (Sgt) and Junior Warrant Officer (JWO) called as Corporal Promotion Exam (CPE), Sergeant Promotion Exam (SPE) and Junior Warrant Officer Promotion Exam (JPE).</p>
<p>17. Planned arrangements for the Recognition of Prior learning (RPL)</p>	<p>N/A, as each stage is complete</p>
<p>18. International comparability where known</p>	<p>Not Known</p>
<p>19. Date of planned review of the qualification.</p>	<p>Every 5 yrs / earlier in case of change in training syllabus pattern.</p>

20. Formal structure of the qualification			
Title of component and identification code.	Mandatory / Optional	Estimated size (learning hours)	Level
1.Entire range of work and Shift Duties of Met Observer IAF/MET/170/01	M	460	4
2. Plotting and Charting IAF/MET/170/02	M	420	4
3.Met Instruments IAF/MET/170/03	M	430	4
4. Met Software and websites IAF/MET/170/04	M	430	4
5. Hydrogen gas and PB ascent IAF/MET/170/05	M	410	4
6. Modern Met Equipment IAF/MET/170/06	M	430	4
7.Tephi-gram IAF/MET/170/07	M	450	4
8. Field Equipment IAF/MET/170/08	M	420	4
9.Helipad duties IAF/MET/170/09	M	410	4
Total		3860	

Syllabus of all the TPT and assessment strategy Annexed as Annexure-I

SECTION 1 **ASSESSMENT**

21. Body/Bodies which will carry out assessment:

There are two bodies, which carry out the assessment:-

1. Unit Examining Board (UEB) is responsible for conducting in term exams.
2. Regional Exam Board (Training) {REB (T)} is responsible for conducting the End Term Exam for gauging the knowledge acquired by the air warriors.

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.

Assessment is carried out by both UEB and independent REB (T). Both the boards have all necessary infrastructure and pool of qualified Instructors, Examiners and Assessors to carry out detailed assessments. REB (T) uses all the modern trends like Online Testing and Evaluation System (OTES) for conducting the exams, evaluation and in-depth analysis of the result. The exams are conducted in the following manner:-

1. Written Exams are conducted by both boards for the theory part of curriculum consisting of questions divided into three categories (factual, comprehension, application) for testing the knowledge of air warrior in his trade:-
 - (a) **Objective.** Multiple Choice Questions 100 Marks
 - (b) **Subjective.** Very Short Answers, Short Answers, Long Answers
 2. Practical Exam to test the:- 100 Marks
 - (a) Professional Skill
 - (b) Core Skill of the air warrior
 3. Viva Voce to gauge the overall knowledge, and its application in resolving an issue. 50 Marks
- **Total :** 250 Marks

24. Assessment Evidences

Title of Component:

Outcomes to be assessed	Assessment criteria for the outcome
1. Capability to undertake entire range of work and Shift Duties of Met Observer	1. Ability of air warrior in: (a) Handing over/taking over of shift duties. (b) Observing, recording and reporting of current weather. (c) Operation of Automatic weather Station (AWS). (d) Operation of Mausam on line (MOL).
2. Knowledge of Plotting and Charting	2. Ability of air warrior in: (a) Usage of different weather charts. (b) Decoding and plotting of SYNOP/METAR/ TEMP/ PILOT codes, as described by World Meteorological Organisation. (c) Using of various colour schemes while plotting of charts. (d) Plotting of Tephi-gram.
3. Knowledge and Awareness of Met Instruments	3. Ability of air warrior in: (a) Operations of Conventional Met Instruments. (b) Maintenance of Conventional Met Instruments. (c) Maintaining the Met instrument maintenance register.
4. Knowledge and Awareness	4. Ability of air warrior in:

of Met Software and websites	(a) Usage of various websites as well as from various other sources. (b) Downloading of different kind of Met data. (c) Usage of various software in preparing charts and forms.								
5. Knowledge of Hydrogen gas and PB ascent	5. Ability of air warrior in: (a) Knowledge of parts and use of LP generator. (b) Preparing hydrogen gas with LP generator. (c) Safety precautions. (d) PB Ascent.								
6. Knowledge of Modern Met Equipment	6. Ability of air warrior in: (a) Operation and handling of Modern Met Equipment. (b) Maintenance of Modern Met Equipment. (c) Maintaining of Modern Met Equipment maintenance register.								
7. Knowledge of Tephigram	7. Ability of air warrior in: (a) Plotting of TEMP message. (b) Finding out of thermodynamic indices.								
8. Knowledge of Field Equipment	8. Ability of air warrior in: (a) Operation and handling of Laser Range Finder (LRF). (b) Operation and handling of Digital Met Mobile Kit. (c) Observing, recording and reporting of Field Met Equipment data.								
9. Knowledge of Helipad duties	9. Ability of the air warrior in: (a) Observing of weather at helipads. (b) Providing required Met reports.								
<p>Means of assessment 1</p> <p>There are six types of Assessments viz. Mid Term Examinations, End Term Test, Pre-Mid Course Knowledge Test, Mid Course Knowledge test, Pre-Course End Knowledge test and Course End Knowledge test.</p> <p>(a) The Mid Term Examinations, End Term Test, Pre-Mid Course Knowledge Test and Pre-Course End Knowledge Test are carried out part wise during the conduct of course. Exams are conducted by UEB.</p> <p>(b) Mid Course Knowledge test and Course End Knowledge test are carried out at the mid and end of the course. Exams are conducted by REB (T)</p>									
<p>Means of assessment 2</p> <p>1. Mid Term Examinations (Total marks allotted- 100 x 4= 400) conducted by UEB part wise.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">(a) Part-I Written (Theory)</td> <td style="text-align: right;">100 Marks</td> </tr> <tr> <td>(b) Part-II Written (Theory)</td> <td style="text-align: right;">100 Marks</td> </tr> <tr> <td>(c) Part-III Written (Theory)</td> <td style="text-align: right;">100 Marks</td> </tr> <tr> <td>(d) Part-IV Written (Theory)</td> <td style="text-align: right;">100 Marks</td> </tr> </table>		(a) Part-I Written (Theory)	100 Marks	(b) Part-II Written (Theory)	100 Marks	(c) Part-III Written (Theory)	100 Marks	(d) Part-IV Written (Theory)	100 Marks
(a) Part-I Written (Theory)	100 Marks								
(b) Part-II Written (Theory)	100 Marks								
(c) Part-III Written (Theory)	100 Marks								
(d) Part-IV Written (Theory)	100 Marks								

2. End Term test (Total marks allotted- 200 x 2 = 400) conducted by UEB.

- | | |
|------------------------------|----------|
| (a) Part-I Written (Theory) | 50 Marks |
| (b) Part-II Written (Theory) | 50 Marks |
| (c) Part-III A Practical | 75 Marks |
| (d) Part-III B Viva-Voce | 25 Marks |

3. Pre-Mid Course Knowledge test and Pre-Course End Knowledge test (Total marks allotted- 500 x 2 = 1000) conducted by UEB.

- | | |
|--------------------------------|-----------|
| (a) Part-I Trade Theory | 100 Marks |
| (b) Part-II Trade Theory | 100 Marks |
| (c) Part-III A Trade Practical | 200 Marks |
| (d) Part-III B Trade Viva-Voce | 100 Marks |

4. Mid Course Knowledge test and Course End Knowledge test (Total marks allotted- 500 x 2 = 1000) conducted by REB (T).

- | | |
|--------------------------------|-----------|
| (a) Part-I Trade Theory | 100 Marks |
| (b) Part-II Trade Theory | 100 Marks |
| (c) Part-III A Trade Practical | 200 Marks |
| (d) Part-III B Trade Viva-Voce | 100 Marks |

Component wise distribution of marks is given in the Annexure-II

Pass/Fail

The minimum qualifying standard is 50% marks in each part and 50% in aggregate of all parts of Course End Knowledge Test (CEKT) Exam conducted by REB (T). Those who score 70% in each part are directly conferred the rank of LAC.

Should pass within two attempts.

SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: AC/LAC of Meteorological Asst			
Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	Air warrior is able to carry out routine Met section duties.	Air warrior is able to work independently and respond to the orders and instructions well.	4
Professional knowledge	Air warrior to possess fair knowledge of the Meteorological duties as per his level of knowledge.	Air warrior able to acquire the working knowledge of Duty Met Observer, duties of charting and plotting. Sound understanding of the Aerospace, Maintenance and ground safety aspects.	4
Professional skill	Able to grasp the problem, understand the consequences and take appropriate action to resolve it.	Ability to recognise the cause of problem and utilise practical skill for rectification, if required corrective measures after consultation with the seniors.	4
Core skill	Able to communicate well with all personnel of the Unit/Station. Able to read the instructions, policies and orders in Hindi, English and local language.	Depict good communication skills, have fairly good computer knowledge, can handle personal banking, has good understanding of social and natural environment.	4
Responsibility	Able to carry out the Met section duties with ease.	Able to undertake work assigned to him independently. Takes responsibility of his work.	4

SECTION 3

EVIDENCE OF NEED

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

Flying machines are now so sophisticated and advanced in such a way to counter any expected hostile activity. Weather at this juncture plays a crucial role. Meteorology branch in Indian Air Force sharing the responsibility to update aircrews about prevailing and expected weather conditions. It is therefore essential to follow the weather round the clock. Met observer holds such an important responsibility. To assist aircrews for smooth flying, such qualification is met by the Meteorological Assistant trade.

Thus, after successful completion of JBPT and TPT course, newly recruits acquire in-depth knowledge to handle weather related commitments during the course of flying both during war and peace.

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

Is based on the cadre of Indian Air Force and hence 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 specific India Air Force requirements.

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 a 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 air warriors passing out from the training institute and their performance in field units.

This qualification will be reviewed and revised at an interval of five years or earlier, in case of change in syllabus based on the feedback from field Units/REB (Training/Zonal).

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?

On completion of the course, an Aircraftsman will be posted to the field unit, where he will undergo OJT for one month. On successful completion of Met observation, charting and plotting and other related tasks, he will be recommended for Met observer duties. Accordingly, the air warrior will be imparted with skill training under supervision and will be promoted to LAC. After three months of skill refinement he will be in a position to appear for CPE. On successful completion of CPE he will be promoted to Cpl almost after five 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, Appraisal Reports have been linked to skill levels. So, he will be motivated to enhance his skill levels and get them tested by appearing for Skill Grade Test.

The progression flow is given below.

AC→LAC→Cpl*→Sgt*→JWO*→WO→MWO

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

INSTRUCTOR PREREQUISITES: For posting as an instructor following prerequisites are to be fulfilled:-

(a) **Personal attributes:-**

- (i) Should be energetic, motivating, innovative and good at communication.
- (ii) Should be able to establish rapport with the trainees and employ innovative methods to impart instructions.

(b) **Qualification:-**

- (i) Should have attained rank of Sgt and above (at least 13 yrs of service).
- (ii) Should have been assessed 'Superior' and above during preceding 5 yrs.

(c) **QRs:-**

- (i) Should have in depth knowledge and be highly skilled in his trade.
- (ii) Should be recommended for instructional duties by GEB/REB on attaining stipulated standards during assessment.
- (iii) Should have undergone Methods of Instruction Course conducted by Ground Training Instructors School.

CURRICULUM AND TRAINING CONTENTS FOR JOINT BASIC PHYSICAL TRAINING (JBPT)

Sl No.	Syllabus Index	Subject	Total Periods
TRAINING ACTIVITIES DURING WORKING HOURS: SIX DAYS PER WEEK EXCEPT SECOND SATURDAYS			
1.	JBPTC / GST / 1 to 12	General Service Training (including Field Craft Training camp)	590
2.	JBPTC / Eng / 1 to 4	English	350
3.	JBPTC / GSK / 1 to 11	General Service Knowledge	165
4.	JBPTC / Comp / 1 to 08	Basic Computer Training	50
5.	JBPTC/MAC/1 to 07	Mentoring & Counselling	45
TOTAL (SL NO 1 TO 5)		1200	
TRAINING ACTIVITIES BEYOND WORKING HOURS – 200 PERIODS			
6.	JBPTC / Hindi / 1 to 6	Hindi Training	36
7.	JBPTC / WTC / 1	Weak Trainees Classes / Night Classes	64
8.	JBPTC / GSD / 1	General Service Duties & Stn Duties	100
TOTAL (SL NO 6 to 8)		200 periods	
GRAND TOTAL (SL NO 1 TO 8)		1400 periods	
TOTAL EFFECTIVE TRAINING PERIODS		1400 periods=1400x45/60=1050 hour	

Note: Each Period is of 00:45 minutes.

CURRICULUM AND TRAINING CONTENTS FOR TRADE PHASE TRAINING TERM-I

SI No.	SYLLABUS INDEX	SUBJECT	PERIODS				TOTAL
			T	D	P	M	
1.	IPT/GST-I/1-5	GST	5	0	43	0	48
2.	CA/ENG/1	English	18	0	82	0	100
3.	CS/COMP & IW/1	Computer & IW	14	6	10	0	30
4.	SSTT/FF/1	Fundamentals of Flight	12	0	0	0	12
5.	MET/GM/1	General Meteorology	70	2	10	0	82
6.	MET/CMEO/2	Conventional Met Equipment & Observation	28	14	50	0	92
7.	MET/SCWOC/3	Surface & Current Weather Observation and Codes	70	4	164	0	238
8.	MET/OJT/4	OJT	0	0	40	0	40
9.	MET/IV/5	Instructional Visit	0	8	0	0	8
Total			217	3434	39399	00	65650
Common Non Trade Activities (Health Run, PT, OTW, GSD, MTT & ETT)							230
Grand Total (Periods)							880
Grand Total (Hours)							660

CURRICULUM & TRAINING CONTENTS FOR TRADE PHASE TRAINING TERM-II

SI No.	SYLLABUS INDEX	SUBJECT	PERIODS				TOTAL
			T	D	P	M	
1.	IPT /GST-II/1-4	GST	8	0	40	0	48
2.	CS/COMP&IW/8-15	Computer & IW	23	6	8	0	37
3.	SSTT/AS/1-9	Aerospace Safety	26	2	0	0	28
4.	CS/IMMOLS/1-8	IMMOLS	14	2	4	0	20
5.	MET/UAOC/6	Upper Air Observation and Codes	52	19	129	0	200
6.	MET/SUCP/7	Surface & Upper Air Charting & Plotting	29	3	94	0	126
7.	MET/MOT/8	Met Organisation & Telecommunication	17	2	8	0	27
8.	MET/OJT/9	OJT	0	0	110	0	110
Total			169	34	393	0	596
Common Non Trade Activities (Health Run, PT, OTW, GSD, MTT, Pre-REB & REB (T))							284
Grand Total (Periods)							880
Grand Total (Hours)							660

CURRICULUM & TRAINING CONTENTS FOR TRADE PHASE TRAINING TERM – III

SI No.	SYLLABUS INDEX	SUBJECT	PERIODS				TOTAL
			T	D	P	M	
1.	IPT/GST-III/1-3	GST	1	4	43	0	48
2.	SSTT/AS/10-15	Aerospace Safety	21	2	0	5	28
3.	MET/AP/10	Atmospheric Physics	38	0	5	0	43
4.	MET/SM/11	Synoptic Meteorology	71	0	0	0	71
5.	MET/CLI/12	Climatology of India	41	0	0	0	41
6.	MET/FW/13	Forecast & Warning	32	1	24	0	57
7.	MET/STAT/14	Statistics	24	1	20	0	45
8.	MET/CCD/15	Computation of Climatological Data	16	0	8	0	24
9.	MET/FME/16	Field Met Equipment	9	5	26	0	40
10.	MET/PMS/17	Procedure of Met Services	10	0	0	0	10
11.	MET/RSAM/18	Remote Sensing in Aviation Meteorology	30	8	0	0	38
12.	MET/OJT/19	OJT	0	0	195	0	195
13.	MET/IV/20	Instructional Visit	0	8	0	0	08
Total			293	29	321	5	648
Common Non Trade Activities (Health Run, PT, OTW, GSD, MTT, ETT)							232
Grand Total (Periods)							880
Grand Total (Hours)							660

Annexure-V**CURRICULUM & TRAINING CONTENTS FOR TRADE PHASE TRAINING TERM – IV**

SI No.	SYLLABUS INDEX	SUBJECT	PERIODS				TOTAL
			T	D	P	M	
1.	IPT /GST-IV/1	GST	9	0	39	0	48
2.	MET/MME/21	Modern Met Equipment	40	19	35	0	94
3.	MET/MS/22	Met Software	29	13	114	0	156
4.	MET/AMP/23	Aviation Met Procedures	10	03	20	0	33
5.	MET/OJT/24	OJT	0	0	240	0	240
6.	MET/IV/25	Instructional Visit	0	8	0	0	08
Total			293	29	321	5	648
Common Non Trade Activities (Health Run, PT, OTW, GSD, MTT, ETT)							232
Grand Total (Periods)							880
Grand Total (Hours)							660

AFO 57/2015METEOROLOGICAL ASSISTANT: GROUP 'Y'
AIRCRAFTMAN/LEADING AIRCRAFTSMAN**Under supervision and guidance be able to undertake:****Observations**

(a) Observing hourly/half hourly/synoptic /SPECI/Additional weather observation and recording in Current Weather Register manually as well as using Automatic Weather Station (AWS) involving capability to :-

(i) Distinguish different types of clouds, estimate the amount and height of their bases using various methods / Laser Ceilometer / Laser Range Finder and report them.

(ii) Able to record surface wind direction and speed with the help of various conventional/modern wind equipment available in the Met section. In case of un serviceability of the above equipment, individual should be able to access the wind direction manually and estimate the wind speed using Beaufort scale.

(iii) Identify and report different weather phenomenon.

(iv) Estimate horizontal visibility using visibility landmarks.

(v) Take temperature readings from conventional equipment and apply necessary corrections. Use Hygrometric table for calculating relative humidity and dew point temperature. Take temperature readings and RH from Sensor based modern Met instruments.

(vi) Measure amount of precipitation from rain gauge using rain measuring glass and recording of rain by Digital SRRG.

(vii) Use bar reduction tables for calculating pressure values like QFE, QFF and QNH.

Theoretical (Observation)

(a) Basic knowledge of the operation and functioning of following Met equipment:-

(i) Barometers

(ii) Thermometers (all types)

(iii) Wind Vane, Anemometer and DDRWE

(iv) Self Recording Rain Gauge (Conventional and Digital)

(v) Automatic Weather Station (AWS) & Laser Ceilometer

(vi) Digital Aneroid Barometer (DAB)

(vii) Precision Aneroid Barometer (PAB)

(viii) Laser Range Finder (LRF)

(ix) Digital Met Mobile Kit (DMMK)

(x) Theodolite / Digital Theodolite

(xi) LP Generator (xii) Air Meter

(xiii) Prismatic Compass

(xiv) Microwave Radiometer (MWR)

(xv) Lightning Detection System (LDS)

(xvi) Wind Profiler (xvii) Doppler Weather Radar (DWR).

(b) Knowledge of classification and formation of different types of clouds, different types of precipitation, various weather phenomenon, atmospheric obscurities and different types of humidity.

(c) Knowledge of different seasons and associated weather hazards in India.

(d) Function of Mausam on line (MOL).

(e) Knowledge of criterion for issue of Gale / Weather Warning / CMR as per IAP-3202.

(f) Knowledge on process of coding / decoding of surface / upper air compilation.

(g) Knowledge on working principle and first line servicing of all Met equipment.

(h) Knowledge of Met organisation in IAF.

(j) Basic knowledge on working, organisation and function of I Met D.

Practical (Observation)

(a) Encoding / decoding & use of all Met

<p>(viii) To take observations using Digital Met Mobile Kit.</p> <p>(ix) Encode / decode SYNOP, METAR, TAF, RAREP, SATOB etc.</p> <p>(b) Timely dissemination as per orders issued from time to time of the current weather, synoptic observations, limatological data, Cautionary Met Report, Weather Warning & Gale Warning through Mausam On-Line (MOL) / telephone to various users.</p> <p>(c) Compilation of Surface & Upper Air data as per the laid down policies issued from time to time.</p> <p>(d) Obtaining weather of diversionary / neighbouring bases through MOL / telephone etc. to cater to the operational requirements.</p> <p>(e) Obtaining weather of civil airfields, whenever required and that of target area through internet.</p> <p><u>Charting</u></p> <p>(a) Downloading of required Met data from various Met \websites on Internet, Mausam website on AFNET and DMDD. In case of unserviceability of the above, collection of data through telephone / fax / mobile.</p> <p>(b)Plotting main and subsidiary synoptic surface and upper air charts manually as well as using automated plottingsoftware & Mausam website.</p> <p>(c) Plotting of pressure changes and departures, rainfall, past weather & wind tendency on Auxiliary Chart both manually as well as using Met software and Mausam website.</p> <p>(d) Manual and digital plotting of T-Ø gram, find out values like LCL, MCL and thermodynamic indices.</p> <p>(e) Obtain RAREPs, SATOBs and plotting them.</p> <p>(f) Hatching various significant weather elements on synoptic charts and METAR sheets.</p>	<p>codes (SYNOP Code & Aviation Weather Code).</p> <p>(b) Calculation of pressure departure from normal, pressure change in last 24 hours and wind tendency.</p> <p>(c) Knowledge of various Met software such as Digital Atmosphere, Tecan etc.</p> <p><u>Theoretical (Charting)</u></p> <p>(a) Knowledge of various kind of Charts used in Meteorological services.</p> <p>(b) Knowledge of decoding and plotting of SYNOP / METAR / TEMP / PILOT / SHIP codes.</p> <p>(c) Knowledge of colour used for various Metelements while plotting Synoptic / Auxiliary charts.</p> <p><u>Theoretical (Pilot Balloon)</u></p> <p>(a) Knowledge of parts of LP generator and Hydrogen cylinder.</p> <p>(b) Knowledge of Theodolite and its parts.</p> <p>(c) Knowledge of columns in form T-53 and the procedure of filling the form by taking azimuth and elevation readings.</p> <p>(d) Knowledge of various terms and procedures involved in preparation of gas, setting the Theodolite / Tripod, tracking the balloon and calculation of upper winds. Safety precautions to be taken during preparation of Hydrogen gas by LP Generator and filling of balloons through Hydrogen cylinder.</p> <p>(e) Knowledge of various kind of balloons used in IAF for pilot balloon observation / UASS and their storage.</p> <p>(f) Knowledge of first aid, fire appliances, fire fighting procedures and flight safety.</p> <p><u>Practical (Pilot Balloon)</u></p> <p>(a) Handling of LP generator & Hydrogen cylinder and procedures involved while filling of balloons and its maintenance.</p> <p>(b) Procedure of Setting of Theodolite and Tripod with utmost accuracy.</p> <p>(c) Filling T-53 form and calculation of upper wind. Dissemination of Pilot Balloon message to the users.</p>
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<p><u>Pilot Balloon</u></p> <p>(a) Preparation of Hydrogen gas using LP generator. Filling of Pilot balloon using LP Generator and Hydrogen cylinder. Adhering to all safety precautions while preparation/filling pilot balloon.</p> <p>(b) Mounting and setting of Theodolite on PB ascent pillar or Tripod as applicable. Obtaining traffic clearance from ATC before releasing pilot balloon.</p> <p>(c) Releasing and tracking the pilot balloon and note down the readings from the Theodolite during the pilot balloon flight.</p> <p>(d) Drawing trajectory using filled T-53 form and calculation of Upper Wind manually.</p> <p>(e) Knowledge to utilise automated software for wind profile calculation.</p> <p>(f) Coding and dissemination of pilot balloon messages through Mausam On-Line.</p> <p>Radio Sonde observation</p> <p>(a) Initialisation of sounding.</p> <p>(b) Assembling the Balloon filling unit.</p> <p>(c) Filling of balloon from Hydrogen cylinders, preparation of Balloon rig and releasing.</p> <p>(d) Dissemination of the generated message to all the users through MOL. High Resolution Picture Transmission (HRPT) Receiver System</p> <p>(a) Knowledge to extract temperature and humidity profile from the Level-2 products and disseminating to users</p>	<p>(d) Use of height and distance table and free lift table.</p> <p>Theoretical (Radio Sonde observation).</p> <p>(a) Knowledge of all parts of Upper Air Sounding System (UASS) equipment e.g. Balloon filling unit, Antenna, Radio sonde unit etc.</p> <p>(b) Procedures involved in pre-flight procedures, observation of data in Tough Book, termination of ascent and post-flight procedures.</p> <p><u>Practical (Radio Sonde observation)</u></p> <p>(a) Know the procedure of initialisation of Sounding, frequency setting, selection of view, entering the ground values and start the sounding.</p>
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