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1. TAF — Aerodrome Forecast

TAF = Terminal Aerodrome Forecast

Used for domestic flights and in VOLMET broadcast.

Valid for at least **9 hr** and a maximum of **30 hr**.

TAFs valid for **9 hr** are issued every **3 hr**; 12–30 hr TAFs issued every **6 hr**, commencing at **0000 UTC**.

9 hr TAF is **not disseminated internationally** but used for domestic flights and VOLMET.

Key TAF validity rules:

9 hr TAF: issued every 3 hr, commencing 0000 UTC

12–30 hr TAF: issued every 6 hr, commencing 0000 UTC

Amended TAF identified by: TAF AMD

2. TAF Code Form & Groups

TAF CCCC YYGGggZ Y₁Y₁G₁G₁/Y₂Y₂G₂G₂ dddffGfmmKT/MPS/KMH
VVVV or CAVOK NsNsNshs hs hs or V/// or SKC or NSC
PROB C_xC_x YYGGggZ Change likely to occur: (W₁W₂)
(TXTrTr/G₁G₁Z TNT'rT'r/G₂G₂Z) Max & Min temperatures

Code Groups Explained

Code	Meaning	Example
TAF	Report type	TAF
CCCC	ICAO Location Indicator	VECC (Kolkata)
YYGGggZ	Date/Time of issue (Day/Hr/Min UTC)	102100Z = 10th, 2100 UTC
Y ₁ Y ₁ G ₁ G ₁ /Y ₂ Y ₂ G ₂ G ₂	Validity: from Day Y ₁ Hr G ₁ to Day Y ₂ Hr G ₂ UTC	1100/1309 = 11th 00Z to 13th 09Z
dddf(Gfmfm)KT	Wind direction, speed, gusts, units	09012KT
VVVV or CAVOK	Visibility or CAVOK	2500 BR, CAVOK
NsNsNshs hs hs	Cloud amount and base	FEW040 SCT150
BECMG/TEMPO/NOSIG	Change groups (same as TREND)	BECMG 0204
PROB C _x C _x	Probability of occurrence: 30% or 40%	PROB30 or PROB40
YYGGggZ (in change)	Change likely to occur between timings GG and G ₄ G ₄	1809/1812 = change on 18th between 0900–1200 UTC
TXTTr/G ₁ G ₁ Z	Maximum temperature / Time UTC	TX42/10Z = Max 42°C at 1000Z
TNT'rT'r/G ₂ G ₂ Z	Minimum temperature / Time UTC	TN05/01Z = Min 05°C at 0100Z

PROB Rule: Only **PROB30** or **PROB40** are used — never PROB50 or higher (that would imply the change is likely, so it becomes BECMG or TEMPO). PROB30 or PROB40 can be combined with TEMPO to describe the probability of temporary conditions.

3. TAF Decoded Examples

Example 1

```
TAF VECC 102100Z 1100/1109 09012KT 2500 BR FEW040 SCT150 BECMG 0204
16015KT 6 000 TEMPO 1107/1109 FEW030CB =
```

VECC → Kolkata
102100Z → Issued on 10th at 2100 UTC
1100/1109 → Valid 11th day 0000 UTC to 11th day 0900 UTC
09012KT → Surface Wind 090°/12 KT
2500 BR → Visibility 2500 m due to Mist
FEW040 SCT150 → Clouds: 1–2/8 at 4000 ft, 3–4/8 at 15,000 ft
BECMG 0204 → Becoming from 0200 till 0400 UTC
16015KT 6000 → Surface Wind 160°/15 KT, Visibility 6000 m
TEMPO 1107/1109 FEW030CB → Temporarily from 0700–0900: 1–2/8 CB at 3000 ft

Example 2 — with AMD

In TAFs the date and time of issue of TAF is included after CCCC group. Letter **Z** is an indicator for time of issue in UTC. **KT** for wind speed.

Amended TAF identified by: TAF AMD

Sample TAFs for Study

TAF VOMM 031500Z 0318/0424 26005KT DZ/HZ SCT015 FEW025CB BKN080
TEMPO 0321/0403 1500 RA/BR SCT010 SCT015 FEW025CB OVC080 BECMG
0405/0406 07005KT 7000 TEMPO 0409/0415 2000 TSRA SCT008 FEW025CB
BKN080 BECMG 0416/0417 00000KT 4000 HZ=

TAF VOCI 141500Z 1418/1524 14005KT DZ/HZ SCT015 FEW025CB BKN080
TEMPO 1421/1503 1500 RA SCT010 FEW025CB OVC080 TEMPO 1509/1515 2000
TSRA SCT008 FEW025CB BKN080 BECMG 1516/1517 12010KT SCT120 7000=

4. TAF Validity & Issuance Rules

TAF Type	Validity	Issuance Interval	Commencing	Dissemination
Short TAF	9 hr	Every 3 hr	0000 UTC	Domestic + VOLMET only (not international)
Long TAF	12–30 hr	Every 6 hr	0000 UTC	International dissemination

TAF Validity — Example: 1200/1306 = Valid from day 12 time 0000 UTC to day 13 time 0600 UTC
1606/1615 = Valid on day 16 time 0600 to time 1500 UTC

flowchart LR

A[TAF Issued] --> B{Validity?}

B -->|9 hr| C[Issued every 3hr\nDomestic/VOLMET only\nNOT disseminated internationally]

B -->|12-30 hr| D[Issued every 6hr\nCommencing 0000 UTC\nInternational dissemination]

C --> E[TAF AMD = Amended TAF]

D --> E

5. ARFOR — Area Forecast for Aviation

ARFOR = Area Forecast for Aviation in figure code for a specific area.

The ARFOR covers meteorological data at **multiple altitude levels** including winds, temperatures, cloud, turbulence, icing, and jet stream data.

Example area description: *VECC AND 50 NM AROUND*

6. ARFOR Code Sections & Indicators

ARFOR Code Form

```
ARFOR (YYGGggZ) Y1Y1G1G1/Y2Y2G2G2[KMH or KT or MPS]
AAAA (VVVV) (W1W1W1)
SECTION 1 (N.CC.lhslhs.hs or VV/// or SKC or NSC) (dddff)(eee)
SECTION 2 (1111) QLiLiLiLi h'h'(f ff)
SECTION 3 (22222 h'ah'mfafafa dadaVV)
SECTION 4 9innn
```

Section Explanations

Section	Content
Section 1	Code identification and time group of ARFOR
Section 2	Symbolic Figure: 11111, and Jet Stream Data (optional)
Section 3	Symbolic Figure: 22222, and Data of Max wind and Vertical wind shear (optional)
Section 4	Supplementary weather phenomena — lowest msl pressure, type of Front, change at Lat/Long, BECMG, FROM, TEMPO etc.

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Indicator Figures Used in ARFOR

Indicator	Meaning
7hhhhhhh	7 Indicator for altitude hhhh = Altitude of cloud layer; hhhh = Altitude of Freezing Level
6lhhht	6 Indicator for Icing; L = Type of icing; hhhh = altitude; t = Thickness
5Bthsbh,	5 Indicator for Turbulence
4hbhbT,T,	4 Indicator for Wind and Temperature
2h _i h _r T _s T _r	2 Indicator for Tropopause level pressure and temperature

AAAA = Description of area in plain language, e.g., VECC AND 50 NM AROUND

VVVV = Forecast visibility, e.g., 6000

Cloud Group: (N.CClhslhs.hs or VV/// or SKC or NSC), e.g., 2/8 AC at 10000 ft reported as **2AC100**

Cloud Group Reporting Rules:

1st Group: Lowest layer (N, 1/8 or more)

2nd Group: Next higher layer (N, 3/8 or more)

3rd Group: Next higher layer (N, 5/8 or more)

In addition CB if not already included

7. ARFOR Turbulence, Icing & W'W' Codes (Table 26.2)

B (Turb)	Type of Turbulence	L (Icing)	Type of Icing	W'W'	Reported as
0	Nil	0	Nil	111	Thunderstorm (TS)
1	Light	1	Light	222	Tropical Cyclone (TPS)
2	Moderate CAT OCNL	2	Light Icing in Cloud	333	Severe Line Squall (SQ)
3	Moderate CAT Frequent	3	Light Icing in Precipitation	444	Hail (HAIL)
4	Moderate in Cloud Occasional	4	Moderate Icing	555	Marked Mountain Waves (MTW)
5	Moderate in Cloud Frequent	5	Moderate Icing in Cloud	666	Widespread Sandstorm (SAND)
6	Severe CAT OCNL	6	Moderate Icing in Precipitation	777	Widespread Duststorm (DUST)
7	Severe CAT FREQ	7	Severe Icing	888	Freezing Rain (FZRA)
8	Severe in Cloud Occasional	8	Severe Icing in Cloud	—	—
9	Severe in Cloud FREQ	9	Severe Icing in Precipitation	—	—

Mnemonic for W'W' codes:

111 = TS (Thunderstorm) — "ONE-ONE-ONE = THUNDER"

222 = TPS (Tropical Cyclone)

333 = SQ (Squall Line)

444 = HAIL

555 = MTW (Mountain Wave)

666 = SAND (Sandstorm)

777 = DUST (Duststorm)

888 = FZRA (Freezing Rain)

8. ARFOR Decoded Example

```
ARFOR VIDP 091400 AREA FCST UPTO FL460 VALID 1000/1100 FOR AREA  
28N72E 30N80E 20N90E 15N75E 28N72E SYNOPSIS TC CENTRED 23N74E AT  
0300UTC MOV NW 20KT INTNSF=
```

ARFOR VIDP → Area Forecast Issued by Delhi Palam
 091400 → On 09th at 1400 UTC Area Forecast
 UPTO FL460 → Valid 1000/1100 UTC Area Forecast Upto FL460
 VALID 1000/1100 → Valid on 10th Day from 0000 UTC to Next Day 0000 UTC
 FOR AREA: 28N72E → 30N80E → 20N90E → 15N75E → 28N72E (defining the area polygon)
 SYNOPSIS TC CENTRED 23N74E AT 0300UTC → Tropical Cyclone centred at 23N 74E at 0300 UTC
 MOV NW 20KT → Moving NW at 20 KT
 INTNSF → Intensifying

9. ROFOR — Route Forecast for Aviation

ROFOR = Route Forecast for Aviation

Provides route-based weather data for en-route flight planning including winds, temperatures, cloud, turbulence, icing, jet stream, and maximum wind information at multiple altitude levels along a specific route.

10. ROFOR Code Form & Sections

```
ROFOR (YYGGggZ) Y1Y1G1G1/Y2Y2G2G2[KMH or KT or MPS]
CCCC Oiiizz
(VVVV) (W1W1Wi) N.CC1.hs.hs 7hhhhhhh.hs. 6lhhht.
SECTION 2 (1111) QLiLiLiLi h'h'(fff)
SECTION 3 (2222 h'ah'mfafafa dadaVV)
SECTION 4 9innn
```

ROFOR Sections

Section	Content
Section 1	Code identification and time group of ROFOR
Section 2	Symbolic Figure 1111, Jet Stream Data (optional)
Section 3	Symbolic Figure 2222, Max Wind and Vertical Wind Shear (optional)
Section 4	Supplementary weather phenomena — lowest MSL pressure, type of Front, change at Lat/Long, BECMG, FROM, TEMPO etc.

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Note on ROFOR Encoding:

Height of winds and temperature are prefixed by **INDICATOR 4** followed by direction in 2 digits (e.g., 28 for 280°) and speed in 3 digits (e.g., 20 kt is coded 020).

Indicator **5** = MODERATE TURBULENCE IN CLEAR AIR at 33,000 ft, thickness of turbulence 6000 ft (1800 m)

Indicator **6** = LIGHT ICING IN PRECIPITATION at 12,000 ft; thickness 2700 m or 9000 ft

Indicator **11111** = JET STREAM location (quadrant, lat, lon), altitude, wind speed

Indicator **22222** = MAX WIND altitude, direction, speed and VERTICAL WIND SHEAR per 300 m

11. ROFOR Decoded Example

```
ROFOR 060300Z 060612 KT VIDP 12580 2AC120 4CI300 7///180 403028 27010
405020 28015 407015 30020 410010 33025 523306 631209 11111 12775 40120
22222 38150 27115=
```

Full Decoded ROFOR:

ROFOR → Route Forecast

060300Z → Issued on 06th Day at 0300 UTC

060612 → Valid on 06 Day from 0600 to 1200 UTC

KT → Winds Speed in KT

VIDP 12580 → Route: Palam (Delhi) to (Quadrant 1) 25N 80E

2AC120 → Clouds: 2/8 AC at 12,000 ft

4CI300 → 4/8 CI at 30,000 ft

7///180 → Indicator 7: Freezing Level 18,000 ft (/// = cloud altitude not reported)

403028 27010 → Indicator 4 for 3000 ft: Temp 28°C, Wind 270°/10 KT

405020 28015 → At 5000 ft: Temp 20°C, Wind 280°/15 KT

407015 30020 → At 7000 ft: Temp 15°C, Wind 300°/20 KT

410010 33025 → At 10,000 ft: Temp 10°C, Wind 330°/25 KT

523306 → Indicator 5 (TURB): Moderate Turbulence in Clear Air at 33,000 ft, Thickness of Turbulence 6000 ft (1800m)

631209 → Indicator 6 (ICING): Light Icing in Precipitation at 12,000 ft; Thickness 2700 m or 9000 ft

11111 12775 40120 → Jet Stream: Location (Quadrant 1) 27N 75E at 40,000 ft; Wind Speed 120 KT

22222 38150 27115 → Max Wind: At 38,000 ft, Speed 150 KT, Direction 270°, Vertical Wind Shear 15 KT per 300 m

Interpret the ROFOR (Second Example)

```
ROFOR 070530Z 070915 KT VECC VNP 4000 444 3CB020 7///170 641809 5416009
405016 16012 410006 24015 415003 28025 4200M04 27045 4300M25 28080 11111
12881 40150 22222 42160 28 25=
```

Hints: 444 = stands for Hail; 64 (Moderate icing, medium), 54 (Mod Turbulence in Cloud Occasional)
(Note: See ARFOR for explanation of terms)

12. Weather Symbols Used in Forecasts

Symbol	Weather	Symbol	Weather
∞	Widespread Haze	↗	Widespread Blowing Snow
~	Widespread Smoke	⌒~	Freezing Precipitation
≡	Widespread Mist	⚡ (R)	Thunderstorm
≡≡	Widespread Fog	6	Tropical Cyclone
∇	Freezing Fog	—v—	Severe Line Squall
S	Severe Sand or Dust Haze	∩	Moderate Turbulence
S+	Widespread Duststorm or Sandstorm	^	Severe Turbulence
,	Drizzle	~ ~ ~	Marked Mountain Wave
/// ///	Rain	—	Light Ice Accretion
* *	Snow	— —	Moderate Ice Accretion
△	Hail	— — —	Severe Ice Accretion
∇	Shower	⬆	Volcanic Eruption

13. Practice Q&A — TAF

Based on TAF: VILK 241800Z 2500/2509 000KT 0800 FG HECMG 2503/2504 32005KT BECMG 2504/2505 09015G30KT 3000 HZ 2/8 FEW025CB BKN100 BECMG AT 250800 800 FG=

Use this TAF for Questions 1–16

TAF VILK 241800Z 2500/2509 09008KT 0800 FG BECMG 2504/2505 09015KT 6000 SCT008 BKN120
TEMPO 2506/2508 12015G30KT 3000 TSRA FEW012 FEW025CB BKN100 BECMG AT 25/0800 09010KT 7000 FEW030 SCT120 BKN280=

Q1. The TAF has been issued on: (a) 23rd (b) 18th (c) 24th

✓ Correct: (c) 24th — YY in YYGGggZ = 24

💡 First two digits of YYGGggZ = day of month of issue.

Q2. The TAF has been issued at: (a) 2330 IST (b) 1830 UTC (c) 24 UTC

✓ Answer: (a) 2330 IST — The issue time is 1800 UTC (241800Z). IST is UTC + 5 h 30 min, so 1800 UTC = 2330 IST.

💡 Z = UTC. IST = UTC + 5:30.

Q3. The expected surface wind speed is: (a) 0 kt (b) 6 kt (c) 08 kt

✓ Answer: (c) 08 kt — The initial forecast wind is 09008KT: 090° at 8 kt.

💡 dddff: direction first, speed second.

Q4. Initially expected wind direction is: (a) 120° (b) 090° (c) 050°

✅ Answer: (b) 090° — The initial forecast wind is 09008KT: from 090° at 8 kt.

💡 The first wind group is the initial forecast; BECMG and TEMPO groups follow.

Q5. TAF is Valid for Date: (a) 23rd (b) 24th (c) 25th

✅ Correct: (c) 25th — Validity 2500/2509 = 25th 00Z to 25th 09Z

💡 Y₁Y₁ in validity group = day the TAF is VALID (not when issued).

Q6. Lowest forecast visibility in TAF is: (a) 1500m (b) 800m (c) 0200m

✅ Answer: (b) 800m — The lowest forecast visibility is the initial 0800 m in fog (FG). The later groups forecast 6000 m, 3000 m (in TSRA) and 7000 m.

💡 Scan every group: the lowest visibility is the one to quote.

Q7. Height of base of lowest clouds in TAF is: (a) 1000 m (b) 1000 ft (c) 0800 ft

✅ Answer: (c) 0800 ft — SCT008 is the lowest cloud: 008 × 100 = 800 ft.

💡 Cloud heights are in hundreds of feet.

Q8. Weather TSRA is expected after: (a) 0600 UTC (b) 0600 IST (c) 0800 UTC

✅ Answer: (a) 0600 UTC — The TEMPO group 2506/2508 forecasts TSRA from 0600 UTC on the 25th (to 0800 UTC).

💡 In TEMPO 2506/2508 the first time is when the weather starts.

Q9. Direction of gusty wind is: (a) 090° (b) 100° (c) 120°

✅ Answer: (c) 120° — The gusty wind is in the TEMPO group: 12015G30KT, from 120° at 15 kt gusting 30 kt.

💡 dddffGfmfm: direction, mean speed, gust.

Q10. Expected weather up to 2504 0400UTC is: (a) Fog (b) TSRA (c) Mist

✅ Answer: (a) Fog — The initial forecast is 0800 FG: fog, with visibility 800 m. It lasts until the BECMG 2504/2505 improves the visibility to 6000 m.

💡 FG = fog (visibility under 1000 m).

Q11. Amount of lowest cloud is: (a) 1–2/8 (b) 3–4/8 (c) 5–7/8

✅ Answer: (b) 3–4/8 — SCT008 is the lowest layer: SCT means 3–4 oktas.

💡 FEW 1–2 · SCT 3–4 · BKN 5–7 · OVC 8.

Q12. Amount of CB cloud is: (a) 1–2/8 (b) 2–4/8 (c) 5–7/8

✅ Correct: (a) 1–2/8 — FEW025CB = FEW CB

💡 CB amount uses same prefix codes as regular cloud. FEW025CB = 1–2/8 CB at 2500 ft.

Q13. Height of base of CB is: (a) 2500 ft (b) 3000 m (c) 2500 m

✅ Answer: (a) 2500 ft — FEW025CB: the cloud base is $025 \times 100 = 2,500$ ft above the aerodrome.

💡 Cloud heights in TAF are in hundreds of feet.

Q14. The height of topmost layer of cloud is: (a) 2800 m (b) 28000 m (c) 28000 ft

✅ Answer: (c) 28000 ft — BKN280 is the highest layer in the forecast: $280 \times 100 = 28,000$ ft.

💡 BKN280 = broken at 28,000 ft.

Q15. Period of validity of TAF is: (a) 23 to 00 IST (b) 00 to 09 UTC (c) 20 to 12 UTC

✅ Correct: (b) 00 to 09 UTC — Validity: 2500/2509 = 25th 0000 UTC to 25th 0900 UTC

💡 Validity group $Y_1Y_1G_1G_1/Y_2Y_2G_2G_2$: from = day 25, 00Z; to = day 25, 09Z.

Q16. Group 1500/1509 in a TAF indicates: (a) TAF issued on 15th at 0000 UTC (b) TAF is valid from 15th 0000 to 0900 UTC (c) TAF is valid from 1500 to 0900 UTC

✅ Correct: (b) TAF is valid from 15th day 0000 UTC to 15th day 0900 UTC

💡 $Y_1Y_1G_1G_1/Y_2Y_2G_2G_2$ = from Day Y_1 , Hour G_1 to Day Y_2 , Hour G_2 (all UTC).

Q17. What is true of a TAF? (a) 9 hr TAF for international dissemination (b) TAF valid for 9 hr is issued every 6 hr (c) TAF valid for 12–30 hr is issued every 3 hr (d) TAF for national use valid for 9 hr and issued every 3 hr

✓ Correct: (d) — 9 hr TAF for national (domestic) use, issued every 3 hr

✗ (a) 9 hr TAF is NOT for international dissemination; (b) 9 hr TAF issued every 3 hr, not 6; (c) 12–30 hr TAF issued every 6 hr, not 3.

💡 Key distinction: 9 hr TAF = domestic/VOLMET, every 3 hr; 12–30 hr TAF = international, every 6 hr.

14. Practice Q&A — ROFOR

Based on ROFOR: 010000Z 010610 KT VECC VILK 2SC030 2CB030 3AC100 2CI300 7///170 621800 541501 405022 28015 407010 28020 410005 29030 420M05 27045 440M41 27105 11111 38120 22222 36140 2825=

Use this ROFOR for the ROFOR Questions

ROFOR 010000Z 010610 KT VECC VILK 2SC030 2CB030 3AC100 2CI300 7///170
621800 541501
405022 28015 407010 28020 410005 29030 420M05 27045 440M41 27105
11111 12870 380120
22222 36140 2825=

Q1. Time of issue of ROFOR is: (a) 0610 UTC (b) 0000 IST (c) 0000 UTC

✓ Correct: (c) 0000 UTC — YYGGggZ = 010000Z = 01st day, 0000 UTC

💡 Z = UTC. 010000Z = 1st day, 00:00 UTC.

Q2. Period of validity of ROFOR is: (a) 0000 to 0000 IST (b) 0600 to 0100 IST (c) 0600 to 1000 UTC

✓ Correct: (c) 0600 to 1000 UTC — Validity 010610 = Day 01, 0600 to 1000 UTC

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💡 ROFOR validity: $YYG_1G_1G_2G_2$ = Day 01, from 0600 to 1000 UTC.

Q3. Wind speed in ROFOR is in: (a) KT (b) MPS (c) KMH

✅ Correct: (a) KT — wind unit specified as KT in the code

💡 Wind units are specified explicitly in ROFOR: KT, MPS, or KMH.

Q4. Base of CB cloud is: (a) 300 m (b) 300 ft (c) 3000 ft

✅ Correct: (c) 3000 ft — $2CB030 = 2/8$ CB at 030 = 3000 ft

💡 Cloud height code $030 \times 100 = 3000$ ft.

Q5. Height of Freezing Level? (a) 1700 m (b) 17,000 ft (c) 1.7 km

✅ Answer: (b) 17,000 ft

💡 Indicator 7 group: $7hhhhhhh.hs$. First hhhh = cloud altitude (/// if not used), last hhhh = Freezing Level $\times 100$ ft.

Q6. Icing group in the ROFOR is: (a) 7///170 (b) 621800 (c) 54//609

✅ Answer: (b) 621800

💡 Indicator 6 = Icing. L=type, hhhh=altitude, t=thickness code.

Q7. Type of Icing? (a) Nil (b) Light (c) Light icing in cloud

✓ Correct: (c) Light icing in cloud — L=2 in 621800 = Light Icing in Cloud (from Table 26.2)

💡 Icing type L=2 = Light Icing in Cloud.

Q8. Indicator figure for turbulence group in the ROFOR is: (a) 7 (b) 6 (c) 5

✓ Correct: (c) 5 — Turbulence group starts with Indicator 5

💡 ROFOR Indicators: 4=Wind/Temp, 5=Turbulence, 6=Icing, 7=Cloud/Freezing Level, 11111=Jet Stream, 22222=Max Wind.

Q9. Height at which Icing is expected: (a) 21,000 ft (b) 18,000 ft (c) 15,000 ft

✓ Answer: (b) 18,000 ft

💡 6 L hh t t: icing type, base in thousands of feet, thickness.

Q10. Height of Icing expected to be: (a) 300 m (b) 600 m (c) Up to Cloud Top

✓ Correct: (c) Up to Cloud Top — Thickness code 0 in icing group = extends to cloud top

💡 Thickness code in icing group: 0 = to cloud top.

Q11. Height at which Turbulence is expected: (a) 15,000 ft (b) 5,000 ft (c) 12,000 ft

✅ Answer: (a) 15,000 ft — The turbulence group 541501: indicator 5, type 4 (moderate turbulence in cloud, occasional), height 15 = 15,000 ft, thickness code 1.

💡 541501: 5 = turbulence, 4 = type, 15 = 15,000 ft, 1 = thickness code (300 m).

Q12. Thickness of turbulence expected is? (a) 2000 m (b) 300 m (c) Up to Top of cloud

✅ Answer: (b) 300 m

💡 Thickness code 1 = 300 m (1000 ft).

Q13. Wind at 5000 ft expected is? (a) 280/10 kt (b) 280/15 kt (c) 280/20 kt

✅ Answer: (b) 280/15 kt

💡 4 hh TT then dd fff: height, temperature, wind.

Q14. Wind at 20000 ft expected is? (a) 270/45 kt (b) 270/45 KMH (c) 270/40 kt

✅ Correct: (a) 270/45 kt — 420M05 27045: at 20,000 ft, Temp M05°C (−5°C), Wind 270°/45 KT

💡 M prefix for temperature in ROFOR = minus (negative). 27045 = 270°/45 KT.

Q15. Temperature at 20000 ft expected is? (a) −05°C (b) 05°C (c) 265 K

✅ Correct: (a) −05°C — M05 in 420M05 = Minus 05°C

💡 M prefix = negative temperature. M05 = -5°C .

Q16. Temperature at 40,000 ft expected is? (a) -45°C (b) -41°C (c) 233 K

✅ Correct: (b) -41°C — 440M41 27105: at 40,000 ft, Temp M41 $^{\circ}\text{C}$ = -41°C

💡 At cruise altitude, temperature is typically -40 to -56°C .

Q17. Date of issue of forecast is? (a) 10 (b) 01 (c) 02

✅ Correct: (b) 01 — YY in 010000Z = 01 (1st day of month)

💡 First two digits of YYGGggZ = day of month.

Q18. Indicator group for Jet stream in ROFOR is: (a) 22222 (b) 11111 (c) 111111

✅ Correct: (b) 11111 — Jet Stream data starts with indicator 11111

💡 11111 = Jet Stream; 22222 = Max Wind / Vertical Wind Shear.

Q19. Indicator group for Maximum Wind in ROFOR is: (a) 22222 (b) 11111 (c) 111111

✅ Answer: (a) 22222

💡 22222 = Max wind indicator. Followed by altitude, speed, direction, and vertical wind shear per 300 m.

Q20. Maximum Wind speed expected is: (a) 120 kt (b) 130 kt (c) 140 kt

✓ Correct: (c) 140 kt — 22222 36140 2825: Max wind at 36,000 ft, speed 140 KT, direction 280°

💡 22222 group: hhhh (altitude) + speed (3 digits) → 36140 = 36,000 ft, 140 KT.

Q21. Maximum Wind speed expected at height: (a) 40,000 ft (b) 36,000 ft (c) 38,000 ft

✓ Answer: (b) 36,000 ft

💡 22222 hh fff, then direction and shear.

Q22. Jet stream is expected at Lat/Long: (a) 27 N70 E (b) 28 N75 E (c) 28 N70 E

✓ Answer: (c) 28N70E — The jet stream group 11111 12870 380120 gives quadrant 1, latitude 28, longitude 70: 28°N 70°E, at 38,000 ft and 120 kt.

💡 11111 Q lat lon, then height and speed.

Q23. Vertical Wind Shear per 300 m expected is: (a) 25 kt (b) 30 kt (c) 38 kt

✓ Answer: (a) 25 kt — In 22222 36140 2825 the last two digits give the vertical wind shear per 300 m: 25 kt.

💡 2825: direction 280°, shear 25 kt per 300 m.

Q24. Jet stream core speed is expected to be: (a) 125 kt (b) 120 kt (c) 140 kt

✓ Answer: (b) 120 kt — In the jet stream group 11111 12870 380120 the speed of the core is 120 kt, at 38,000 ft.

💡 Jet core speed 120 kt; maximum wind 140 kt.

Q25. Jet stream expected at height of: (a) 40,000 ft (b) 36,000 ft (c) 38,000 ft

✓ Answer: (c) 38,000 ft — The jet stream group 11111 12870 380120 places the jet core at 38,000 ft.

💡 Jet at 38,000 ft; maximum wind at 36,000 ft.

Q26. Wind at 40,000 ft expected is? (a) 270/105 kt (b) 270/115 KMH (c) 270/140 kt

✓ Correct: (a) 270/105 kt — 440M41 27105: at 40,000 ft, Wind 270°/105 KT

💡 Indicator 4 wind group for 40,000 ft: 27105 = 270°/105 KT.

15. Master Reference Tables

Critical Numbers — Quick Reference

Parameter	Key Value
TAF minimum validity	9 hr
TAF maximum validity	30 hr
9 hr TAF issuance	Every 3 hr , from 0000 UTC
12–30 hr TAF issuance	Every 6 hr , from 0000 UTC
9 hr TAF dissemination	Domestic + VOLMET; NOT internationally
Amended TAF code	TAF AMD
PROB values used	PROB30 or PROB40 only
ROFOR Indicator 4	Wind & Temperature at altitude
ROFOR Indicator 5	Turbulence
ROFOR Indicator 6	Icing
ROFOR Indicator 7	Cloud altitude & Freezing Level
ROFOR Indicator 11111	Jet Stream data
ROFOR Indicator 22222	Max Wind & Vertical Wind Shear
ARFOR W'W' 111	Thunderstorm (TS)
ARFOR W'W' 222	Tropical Cyclone (TPS)
ARFOR W'W' 444	Hail (HAIL)
ARFOR W'W' 555	Mountain Waves (MTW)
ARFOR W'W' 888	Freezing Rain (FZRA)
Turb B=2	Moderate CAT OCNL
Turb B=7	Severe CAT FREQ
Icing L=0	Nil; L=1 = Light; L=4 = Moderate; L=7 = Severe

ROFOR Indicator Memory Mnemonic: "4-5-6-7-Jets-MaxW"

4 = Wind & Temperature

5 = Turbulence

6 = Icing

7 = Cloud & Freezing Level

11111 = Jet Stream

22222 = Maximum Wind + Vertical Wind Shear

W'W' Code Mnemonic: "1-TS, 2-Cyclone, 3-Squall, 4-Hail, 5-MTW, 6-Sand, 7-Dust, 8-FZRA"

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