PRERNA AVIATION

DGCA CPL Practice Paper 14

Meteorology - Reports & Flight Hazards

ANSWER KEY & EXPLAINED SOLUTIONS

2026-reviewed sectional practice. Not an official DGCA paper or a verified full-length latest-pattern mock.

01 D	02 D	03 A	04 C	05 C
06 C	07 B	08 D	09 D	10 C
11 C	12 B	13 B	14 D	15 B
16 B	17 A	18 D	19 B	20 C
21 C	22 A	23 A	24 A	25 A

01. In a synthetic METAR, 31018KT means wind from:

Answer: D. 310 degrees true at 18 kt

METAR wind direction is given as the direction FROM which wind blows, referenced to true north, and KT indicates knots.

Topic: Wind decoding | Study reference: WX

02. The synthetic group 00000KT signifies:

Answer: D. Calm wind

00000KT is the standard calm-wind group. It is not an instruction to substitute a forecast wind.

Topic: Calm wind | Study reference: WX

03. In a METAR wind group, VRB03KT indicates:

Answer: A. Variable direction at 3 kt

VRB indicates variable wind direction and 03KT indicates speed 3 knots. It is a wind group, not a visibility group.

Topic: Variable wind | Study reference: WX

04. In METAR cloud notation, FEW describes coverage of:

Answer: C. 1 to 2 oktas

FEW means one or two eighths of the sky covered. SCT is three or four, BKN is five to seven and OVC is eight oktas.

Topic: Cloud amount | Study reference: WX

05. The synthetic cloud group SCT025 indicates scattered cloud at:

Answer: C. 2,500 ft above aerodrome level

Cloud-base digits are hundreds of feet above aerodrome level. 025 therefore means 2,500 ft, and SCT means scattered coverage.

Topic: Cloud base | Study reference: WX

06. The group VV003 refers to:

Answer: C. Vertical visibility of 300 ft in an obscuration

VV gives vertical visibility when the sky is obscured. 003 is 300 ft. It is not a measured discrete cloud base.

Topic: Vertical visibility | Study reference: WX

07. In a synthetic METAR, M02/M05 gives air temperature and dew point of:

Answer: B. Minus 2 and minus 5 degrees C

The prefix M means minus in the temperature/dew-point group. The order is air temperature followed by dew point, both in Celsius.

Topic: Subzero temperatures | Study reference: WX

08. The weather code SHRA means:

Answer: D. Rain showers

SH identifies showers and RA identifies rain. Shower precipitation is associated with convective cloud processes and can change rapidly.

Topic: Weather codes | Study reference: WX

09. The weather code FZRA identifies:

Answer: D. Freezing rain

FZ means freezing and RA means rain. Supercooled raindrops can freeze on impact, creating serious icing conditions.

Topic: Freezing precipitation | Study reference: WX

10. The weather code TSRA combines:

Answer: C. Thunderstorm and rain

TS denotes thunderstorm and RA denotes rain. The combination reports thunderstorm-associated rain, with any intensity prefix interpreted separately.

Topic: Thunderstorm code | Study reference: WX

11. A BECMG group in a TAF describes:

Answer: C. An expected change during the stated period towards the specified conditions

BECMG indicates an expected transition during the specified period. It differs from TEMPO, which describes temporary fluctuations.

Topic: TAF change groups | Study reference: WX

12. PROB30 in a TAF expresses:

Answer: B. A 30% probability of the specified conditions

PROB30 assigns a 30% probability to the associated forecast conditions. It is not a wind, cloud-height or duration code.

Topic: TAF probability | Study reference: WX

13. A METAR observation and a TAF disagree about conditions several hours ahead. Which statement is correct?

Answer: B. The METAR describes an observation; the TAF is a forecast for its validity period

Observation time and forecast validity differ. A current observation should inform assessment, but it cannot by itself establish what conditions will be several hours later.

Topic: Observation and forecast | Study reference: WX

14. A well-developed cumulonimbus anvil commonly spreads near:

Answer: D. The tropopause where vertical growth is constrained

Strong convective growth can reach a stable upper layer near the tropopause, encouraging horizontal spreading. Exceptionally strong updraughts can overshoot this level.

Topic: Thunderstorm structure | Study reference: MET

15. Hail growth is supported by strong thunderstorm updraughts because they:

Answer: B. Keep growing ice particles aloft in supercooled liquid water

Updraughts can suspend or recirculate ice particles, allowing accretion of supercooled droplets. Hail can then fall when particles become too heavy for the supporting flow.

Topic: Hail formation | Study reference: MET

16. An aircraft beneath a thunderstorm can encounter hazardous turbulence even outside visible cloud because:

Answer: B. Outflow and gust fronts extend beyond the cloud boundary

Thunderstorm outflow, gust fronts and associated wind shear can extend beyond visible cloud. Avoidance decisions should not rely only on the cloud's apparent edge.

Topic: Convective outflow | Study reference: MET

17. Freezing rain can form when snow falls through:

Answer: A. A warm layer, melts, then enters a shallow subfreezing layer near the surface

Snow can melt in an above-freezing layer, then become supercooled in a shallow cold layer. Drops may remain liquid until striking a surface, where they freeze.

Topic: Freezing rain profile | Study reference: MET

18. Ice pellets rather than freezing rain are more likely if the subfreezing layer below the melting layer is:

Answer: D. Deep or cold enough to refreeze the drops before impact

A sufficiently deep or cold layer allows melted precipitation to freeze into pellets while still airborne. A shallower layer may leave supercooled liquid drops.

Topic: Ice pellets | Study reference: MET

19. Clear ice is often more difficult to remove than a light rime deposit because it may:

Answer: B. Form dense, strongly adhering deposits and spread beyond the initial impact area

Larger supercooled droplets may spread before freezing, producing dense clear ice and potentially runback. The resulting shape and adhesion can be particularly hazardous.

Topic: Clear-ice characteristics | Study reference: MET

20. A frost layer on a wing can be significant because it:

Answer: C. Disturbs airflow and degrades aerodynamic performance

Even thin surface contamination can disrupt the boundary layer and alter lift and stall behaviour. Visual thinness does not establish aerodynamic acceptability.

Topic: Frost effects | Study reference: MET

21. Strong wind perpendicular to a mountain ridge, stable air and increasing wind with height favour:

Answer: C. Mountain waves and possible lee-side rotor turbulence

Stable air displaced over terrain can oscillate downstream. Strong cross-ridge flow and suitable wind profiles favour mountain waves; rotors below waves may be severely turbulent.

Topic: Wave conditions | Study reference: MET

22. During a clear night with light wind, a valley floor can become colder than nearby slopes because:

Answer: A. Dense cold air drains and pools in low ground

Radiative cooling and downslope drainage can collect cold air in valleys, producing inversions and sometimes fog if sufficient moisture is present.

Topic: Valley inversion | Study reference: MET

23. A cold front moves into warm, moist, unstable air. Which development is most plausible?

Answer: A. A band of convective showers or thunderstorms

Frontal lifting can release instability in warm moist air, producing convection. The actual weather depends on moisture, stability, frontal strength and motion.

Topic: Frontal convection | Study reference: MET

24. In a Northern Hemisphere tropical cyclone, low-level circulation is generally:

Answer: A. Anticlockwise around the low-pressure centre

Tropical cyclones are low-pressure systems with anticlockwise circulation in the Northern Hemisphere. The eye may be relatively calm but the surrounding eyewall can be extremely hazardous.

Topic: Tropical circulation | Study reference: MET

25. A radar display shows little precipitation along a route near a strong jet stream. Why is this insufficient to rule out turbulence?

Answer: A. Clear-air turbulence may occur without precipitation echoes

Wind shear near jet streams can produce clear-air turbulence. A lack of precipitation return is not proof of smooth air.

Topic: Radar limitations | Study reference: MET

Study references & review notes

Use these sources to revise the concepts behind your answers. Questions and explanations are newly written; they are not reproduced from an official question bank.

MET — FAA PHAK, Chapter 12: Weather Theory

https://www.faa.gov/sites/faa.gov/files/14_phak_ch12.pdf

WX — Aviation Weather Center: Aviation Weather Data help

https://aviationweather.gov/help/data/

Scope: foundation-to-intermediate CPL ground-subject practice. This set does not claim complete coverage of the latest DGCA syllabus. Consult the current DGCA CAR Section 7, Series B and Pariksha notices for the applicable syllabus and examination requirements. Aircraft-type-specific Technical Specific and a complete RTR(A) course are not included.

FAA references support general theory only, not Indian regulatory requirements. CAP 413 is used for standard phrase meanings, not UK-specific operating rules. Weather reports, fuel reserves and flight scenarios in questions are illustrative. For operational use, consult current approved publications and aircraft manuals.

Reviewed and prepared: 30 October 2026. Official session instructions and syllabus pointers were checked; exact current subject-wise question counts and durations were not independently verified.