1 The average height of the tropopause at 50°N is about

A 14 km
B 16 km
C 11 km
D 8 km

2 In the lower part of the stratosphere the temperature

A is almost constant
B decreases with altitude
C increases with altitude
D increases at first and decreases afterward

3 The environmental lapse rate in an actual atmosphere

A has a fixed value of 0.65°C/100m
B has a fixed value of 2°C/1000 FT
C varies with time
D has a fixed value of 1°C/100m

4 In order to reduce QFE to QNH, which of the following item(s) must be known ?

A Elevation of the airfield and the temperature at the airfield
B Elevation of the airfield and the temperature at MSL
C Temperature at the airfield
D Elevation of the airfield

5 In what hPa range is an upper weather chart for FL 340 situated?

A 500 - 400 hPa
B 600 - 500 hPa
C 300 - 200 hPa
D 400 - 300 hPa

6 An aircraft is flying at FL 180 in the northern hemisphere with a crosswind from the left. Which of the following is correct concerning its true altitude ?

A It increases
B It decreases
C Without knowing temperatures at FL 180 this question can not be answered.
D It remains constant

7 For a similar pressure gradient, the geostrophic wind speed will be

A greater at 60°N than at 30°N
B greater at 30°N than at 60°N
C equivalent to gradient wind ± thermal component
D the same at all latitudes north or south of 15°

8 Between which latitudes are you most likely to find the subtropical high-pressure belt ?

A 25° - 35°.
B 10° - 15°.
C 35° - 55°.
D 55° - 75°.

9 Friction between the air and the ground results in the northern hemisphere in:

A backing of the wind and decrease of wind speed at the surface.
B veering of the wind and decrease of wind speed at the surface.
C backing of the wind and increase of wind speed at the surface.
D veering of the wind and increase of wind speed at the surface.

10 The sea breeze is a wind from the sea

A that reaches up to the tropopause in daytime
B occurring only in the lower layers of the atmosphere in daytime
C occurring only in mid-latitudes and in daytime
D blowing at night in mid-latitudes

11 The core of the polar front jet stream is usually located in the

A polar air above the tropopause
B tropical air below the tropopause
C tropical air above the tropical tropopause
D polar air below the tropopause

12 When and where is an easterly jet stream likely to be encountered ?

A In summer from south-east Asia extending over southern India to central Africa.
B In winter along the Russian coast facing the Arctic ocean.
C In summer from the Middle East extending over the southern part of the Mediterranean to southern Spain.
D Throughout the year to the south of the Azorian high.

13 Dew point is defined as

A the lowest temperature at which evaporation will occur for a given pressure
B the temperature to which moist air must be cooled to become saturated at a given pressure
C the temperature below which the change of state in a given volume of air will result in the absorption of latent heat
D the lowest temperature to which air must be cooled in order to reduce the relative humidity

14 Supercooled droplets can occur in

A precipitation but not in clouds
B clouds but not in fog
C clouds, fog and precipitation
D clouds but not in precipitation

15 A moist but unsaturated parcel of air becomes saturated by

A lifting the parcel to a higher level
B lowering the parcel to a lower level
C moving the parcel to an area with lower pressure and equal temperature
D moving the parcel to an area with higher pressure and equal temperature

16 Which of the following processes within a layer of air may lead to the building of CU and CB clouds?

A Frontal lifting within stable layers.
B Subsidence.
C Radiation.
D Convection.

17 A cumulonimbus cloud at mid-latitudes in summer contains

A ice crystals and water droplets but never supercooled water droplets
B only ice crystals
C only water droplets
D ice crystals, water droplets and supercooled water droplets

18 Which of the following circumstances most favour the development of radiation fog?

A Advection of very cold air over much warmer sea
B Maritime tropical air flowing over cold sea
C Warm moist air at the windward side of a mountain
D Moist air over land during clear night with little wind

19 Which type of fog is likely to form when air having temperature of 15°C and dew point of 12°C blows at 10 knots over a sea surface having temperatures of 5°C ?

A Frontal fog
B Steam fog
C Radiation fog
D Advection fog

20 Which one of the following types of cloud is most likely to produce heavy precipitation ?

A ST.
B SC.
C CS.
D NS.

21 Precipitation in the form of showers occurs from

A convective clouds
B stratified clouds
C cirro-type clouds
D clouds containing only ice crystals

22 In which air mass are extremely low temperatures encountered?

A Arctic maritime air.
B Tropical continental air.
C Polar maritime air.
D Polar continental air.

23 Which of the following conditions are you most likely to encounter when approaching an active warm front at medium to low level ?

A Low cloud base and poor visibility.
B Severe thunderstorms at low altitude.
C Extreme turbulence and severe lightning striking the ground.
D High cloud base, good surface visibility, and isolated thunderstorms.

24 (For this question use annex A)
The cloud type most applicable to most of square 3B is

A NS
B AS
C CS
D SC

25 Which of the following describes a warm occlusion?

A The air mass behind the front is more unstable than the air mass ahead of the front
B The coldest air mass is ahead of the original warm front
C The warmer air mass is ahead of the original warm front
D The air mass ahead of the front is drier than the air mass behind the front

26 In which approximate direction does the centre of a non-occluded frontal depression move?

A In the direction of the sharpest pressure increase.
B In the direction of the isobars behind the cold front.
C In the direction of the warm sector isobars.
D In the direction of the isobars ahead of the warm front.

27 What surface weather is associated with a stationary high pressure region over land in the winter?

A The possibility of snow showers.
B NS with continuous rain.
C Thunderstorms.
D A tendency for fog and low ST.

28 The Hurricane season is mainly from

A April until July.
B January until April.
C October until January.
D July until November.

29 Which one of the following statements is correct concerning the movement of the ITCZ in the region of West Africa?

A It oscillates during the year between the Equator and 10 degrees North.
B It oscillates during the year between 10 degrees North and 10 degrees South.
C It reaches its maximum southerly position of 5° S in January
D It reaches its maximum northerly position of 15° - 20° N in July

30 What name is given to the low level wind system between the subtropical high pressure belt and the equatorial trough of low pressure (ITCZ) ?

A Trade winds.
B Doldrums.
C Westerly winds.
D Monsoon.

31 The transition from SW to NE monsoon in India occurs in

A December, January, February
B February, March, April
C September, October, November
D July, August, September

32 What weather is prevalent in easterly waves?

A Frontal weather.
B Clear skies.
C Continuous rain.
D Thunderstorms and rain.

33 A strong, dry and warm downslope wind, produced by prior enforced ascent of air over hills or mountains is known as a

A Mistral
B Bora
C Foehn
D Scirocco

34 The most dangerous icing conditions are encountered in

A icy clouds at high levels.
B supercooled precipitation.
C zones where the air temperature is below -15°C.
D unstable clouds at medium levels.

35 What is the effect of a strong low level inversion ?

A It promotes vertical wind shear.
B It promotes extensive vertical movement of air.
C It prevents vertical wind shear.
D It results in good visual conditions near the surface.

36 In which stage of the life cycle of a single thunderstorm cell occur both up- and downdrafts simultaneously?

A Mature stage
B Cumulus stage
C Dissipating stage
D In all stages

37 In Central Europe when is the greatest likelihood for thunderstorms due to warm updrafts?

A Mid - afternoon.
B Around midnight.
C Early morning.
D Late morning.

38 A microburst phenomenon can arise in the

A downdraught of a cumulonimbus at the formation stage.
B updraught of a cumulonimbus at the growth stage.
C downdraught of a cumulonimbus at the mature stage.
D updraught of a cumulonimbus at the mature stage.

39 You intend to carry out a VFR flight over the Alps, on a fine and hot summer day. What is the best time of day to conduct this flight?

A Early evening.
B Afternoon.
C Mid-day.
D Morning.

40 The cloud base, reported in the METAR, is the height above

A mean sea level
B airfield level
C the highest terrain within a radius of 8 km from the observation station
D the pressure altitude of the observation station at the time of observation

41 (For this question use annex B)
The height of the tropopause at 38°N 19°W is

A FL 420
B FL 360
C FL 400
D FL 320

42 Which constant pressure altitude chart is standard for FL 390?

A 500 hPa
B 700 hPa
C 200 hPa
D 300 hPa

43 How are well separated CB clouds described on the Significant Weather Chart?

A OCNL CB.
B EMBD CB.
C FRQ CB.
D ISOL CB.

44 Which of the following weather reports is a warning of conditions that could be potentially hazardous to aircraft in flight ?

A TAF.
B SPECI.
C ATIS.
D SIGMET.

45 Which of the following weather reports could be, in accordance with the regulations, abbreviated to "CAVOK"?

A 24009KT 6000 RA SCT010 OVC030 12/11 Q1007 TEMPO 4000 =
B 15003KT 9999 BKN100 17/11 Q1024 NOSIG =
C 04012G26KT 9999 BKN030 11/07 Q1024 NOSIG =
D 29010KT 9999 SCT045TCU 16/12 Q1015 RESHRA NOSIG =

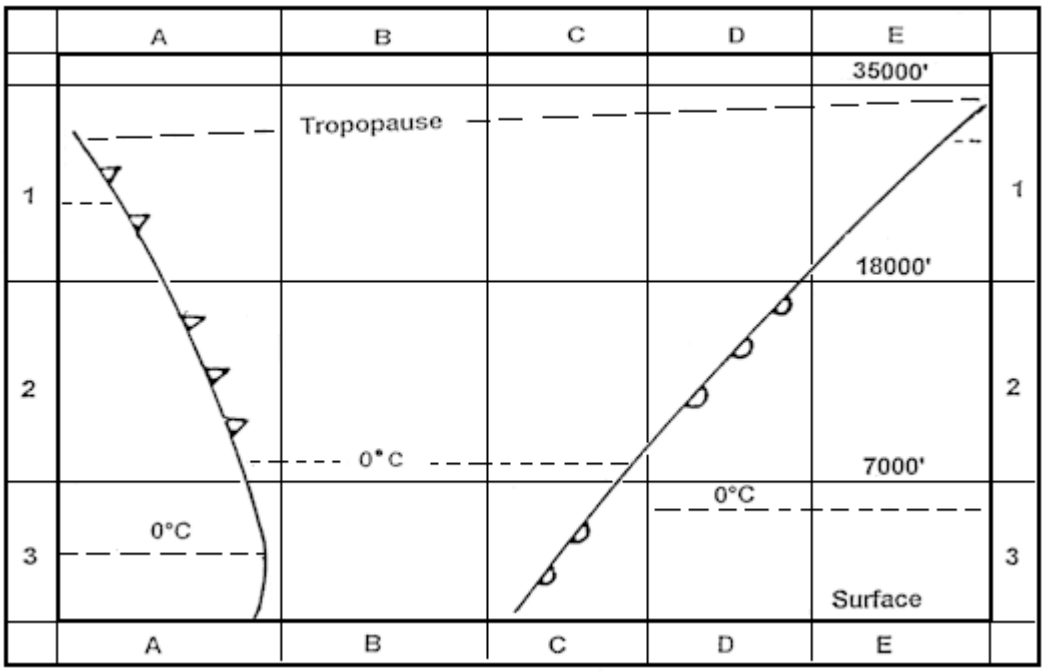
46 (For this question use annex C)
The mean wind that may be expected to affect the route segment from the coast of SE England to Geneva at FL 270 is

A 240/90
B 220/70
C 245/55
D 270/70

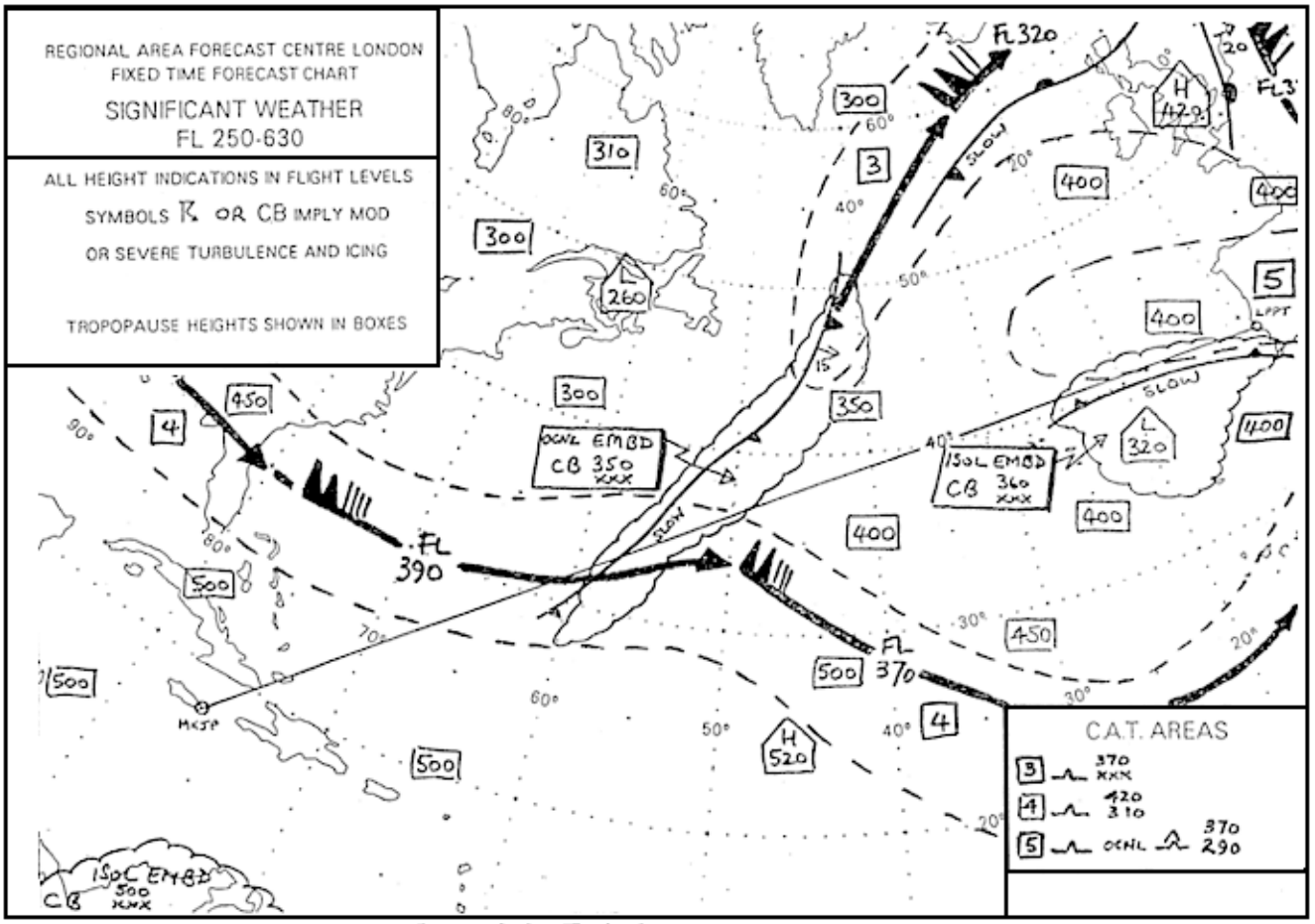
47 (For this question use annex D)
Which of these statements is true?

A The front to the east of Paris (LFPO) is moving south
B Turbulence is likely to be encountered at FL 400 over Malaga (LEMG)
C Local snow and severe aircraft icing can be expected over Germany
D Freezing level above London (EGLL) is higher than FL 065

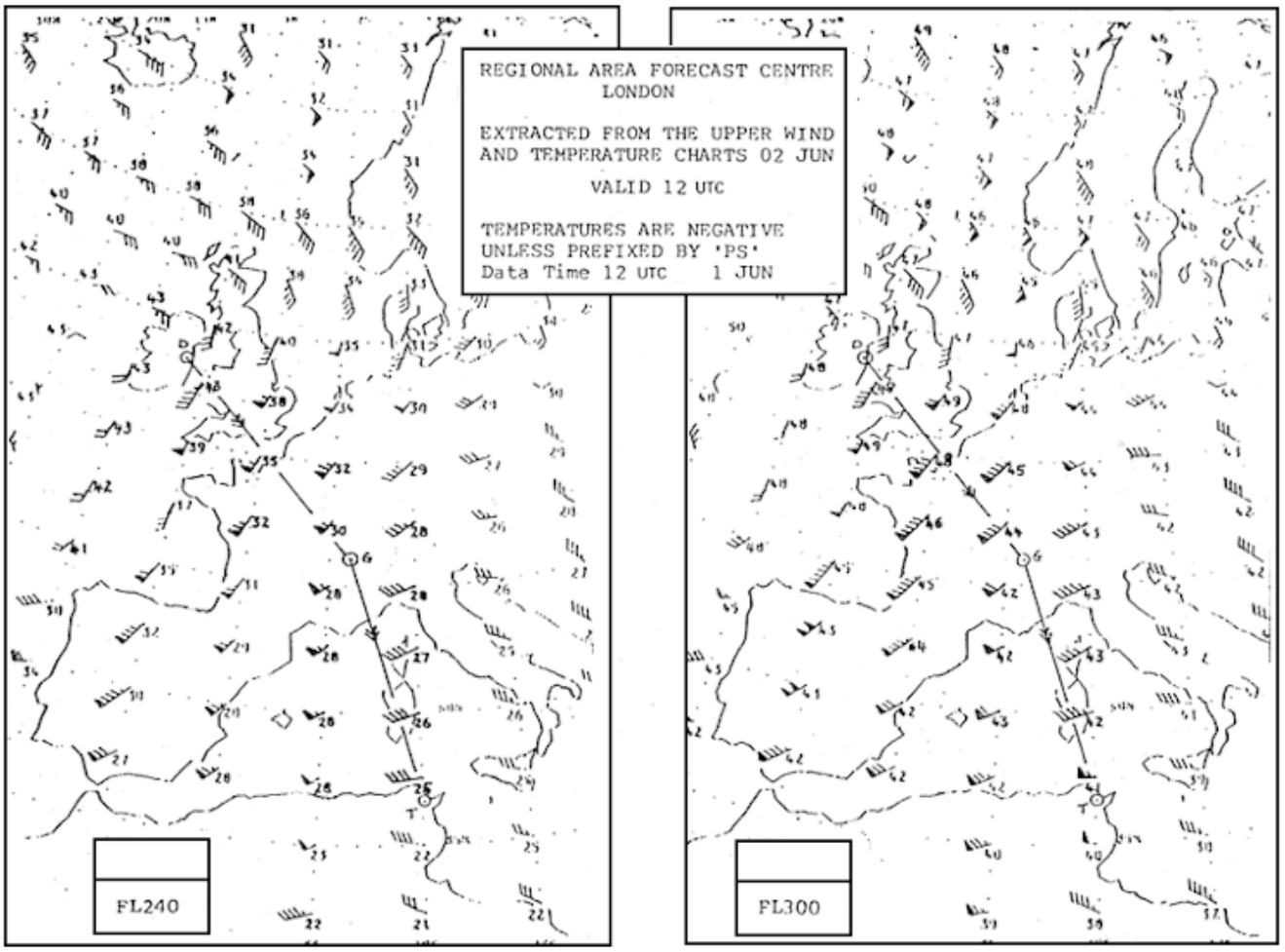
Annex A



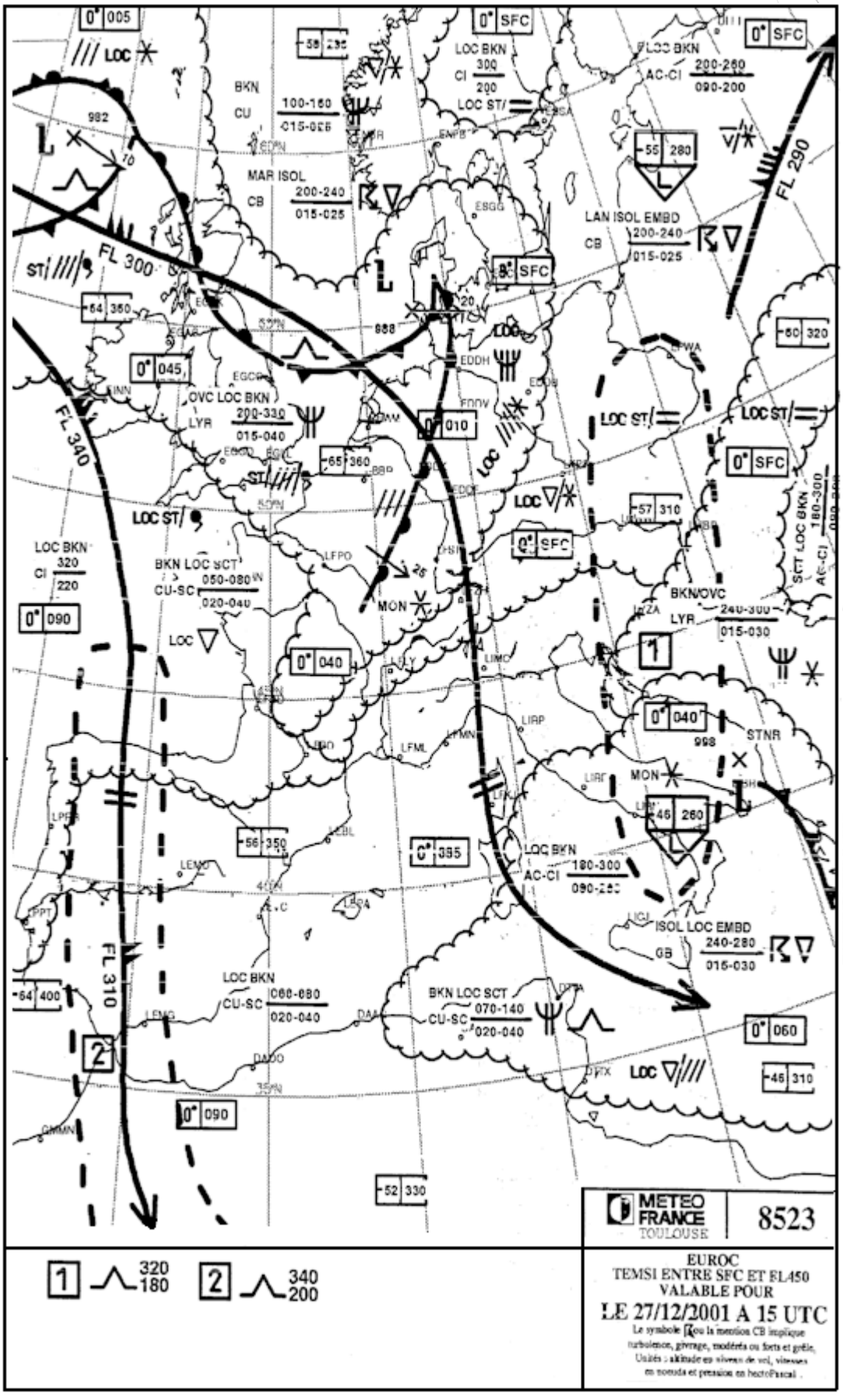
Annex B


REGIONAL AREA FORECAST CENTRE LONDON
FIXED TIME FORECAST CHART
SIGNIFICANT WEATHER
FL 250-630
ALL HEIGHT INDICATIONS IN FLIGHT LEVELS
SYMBOLS K OR CB IMPLY MOD
OR SEVERE TURBULENCE AND ICING
TROPOPAUSE HEIGHTS SHOWN IN BOXES
FL320
FL390
FL370
OCNL EMBD CB 350 XXX
ISOL EMBD CB 360 XXX
ISOL EMBD CB 500 XXX
SLOW
C.A.T. AREAS
3 370 XXX
4 420 310
5 OCNL 370 290

Annex C


REGIONAL AREA FORECAST CENTRE
LONDON
EXTRACTED FROM THE UPPER WIND
AND TEMPERATURE CHARTS 02 JUN
VALID 12 UTC
TEMPERATURES ARE NEGATIVE
UNLESS PREFIXED BY 'PS'
Data Time 12 UTC 1 JUN
FL240
FL300

Annex D


FL 300
FL 340
FL 310
FL 290
LOC ST
LOC BKN
BKN LOC SCT
OVC LOC BKN
MAR ISOL CB
LAN ISOL EMBD CB
ISOL LOC EMBD CB
METEO FRANCE TOULOUSE
8523
EUROC
TEMSI ENTRE SFC ET FL450
VALABLE POUR
LE 27/12/2001 A 15 UTC
1 320 180
2 340 200