

## U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q123 Navigation General - Near Coastal

(Sample Examination)

**Choose the best answer to the following Multiple Choice questions.**

1. A mercurial barometer at sea is subject to rapid variations in height ("pumping") due to the pitch and roll of the vessel. To avoid this error, measurements of atmospheric pressure at sea are usually measured with a(n) \_\_\_\_\_.

- (A) aneroid barometer
- (B) cistern barometer
- (C) fortin barometer
- (D) syphon barometer

*If choice A is selected set score to 1.*

2. Which scale is used to estimate wind speed by observing sea conditions \_\_\_\_\_.

- (A) Beaufort scale
- (B) Wind scale
- (C) Coriolis scale
- (D) Metric scale

*If choice A is selected set score to 1.*

3. Priming of the tides occurs \_\_\_\_\_.

- (A) when the Earth, Moon, and Sun are lying approximately on the same line
- (B) when the Moon is between first quarter and full and between third quarter and new
- (C) when the Moon is between new and first quarter and between full and third quarter
- (D) at times of new and full Moon

*If choice C is selected set score to 1.*

4. You are informed of defects or changes in aids to navigation by \_\_\_\_\_.

- (A) marine broadcasts
- (B) Weekly Notice to Mariners
- (C) Local Notice to Mariners
- (D) All of the above

*If choice D is selected set score to 1.*

5. On a voyage from Halifax, N.S., to Dakar, West Africa, the Canary Current will \_\_\_\_\_.
- (A) set the vessel to the left
  - (B) furnish additional thrust in the form of a fair or following current
  - (C) offer resistance in the form of a head current
  - (D) set the vessel to the right

*If choice D is selected set score to 1.*

6. While underway you sight a light  $11^\circ$  on your port bow at a distance of 12 miles. Assuming you make good your course, what will be your distance off the light when abeam?
- (A) 4.5 miles
  - (B) 2.3 miles
  - (C) 3.9 miles
  - (D) 3.1 miles

*If choice B is selected set score to 1.*

7. While navigating in fog off a coastline of steep cliffs, you hear the echo of the ships fog horn  $2\frac{1}{2}$  seconds after the signal was sounded. What is the distance to the shore?
- (A) 225 yards
  - (B) 460 yards
  - (C) 750 yards
  - (D) 910 yards

*If choice B is selected set score to 1.*

8. You are in the Northern Hemisphere and a tropical wave is located 200 miles due west of your position. Where will the wave be located 24 hours later?
- (A) Closer and to the west
  - (B) Closer and to the east
  - (C) Farther away to the west
  - (D) In the same place

*If choice C is selected set score to 1.*

9. On what does the operation of an aneroid barometer depend?
- (A) Column of mercury supported by atmospheric pressure
  - (B) Thin, metal, air tight cell
  - (C) Expansion of mercury in a closed tube
  - (D) Curved tube containing alcohol

*If choice B is selected set score to 1.*

**10.** All of the following can be found on a Pilot Chart EXCEPT information concerning the \_\_\_\_\_.

- (A) percentage of frequency of wave heights
- (B) sea surface temperatures
- (C) amounts of precipitation
- (D) percentage of poor visibility conditions

*If choice C is selected set score to 1.*

**11.** As the temperature for a given mass of air increases, the \_\_\_\_\_.

- (A) dew point decreases
- (B) relative humidity decreases
- (C) dew point increases
- (D) relative humidity increases

*If choice B is selected set score to 1.*

**12.** Which meteorological feature controls the climate of the Gulf and the Gulf Coast area during late spring and summer?

- (A) The Bermuda High
- (B) Tropical cyclones
- (C) The horse latitudes
- (D) The doldrums

*If choice A is selected set score to 1.*

**13.** On a voyage along the coast of France, you sight a buoy with the top marks as shown in illustration D026NG below. How should you steer your vessel?

- (A) south of the buoy
- (B) east of the buoy
- (C) north of the buoy
- (D) west of the buoy

*If choice A is selected set score to 1.*

**14.** Yesterday your chronometer read 03h 01m 56s at the 1500 GMT time tick. Today your chronometer read 03h 01m 58s at the 1500 GMT time tick. What is the chronometer error?

- (A) -2s
- (B) 03h 01m 58s fast
- (C) +2s
- (D) 01m 58s fast

*If choice D is selected set score to 1.*

15. A buoy marking a wreck will show a(n) \_\_\_\_\_.

- (A) continuous quick white light and may be numbered
- (B) occulting green light and may be lettered
- (C) white light FL (2) and a topmark of 2 black spheres
- (D) yellow light and will be numbered

*If choice C is selected set score to 1.*

16. Which type of precipitation is a product of the violent convection found in thunderstorms?

- (A) Sleet
- (B) Hail
- (C) Snow
- (D) Freezing Rain

*If choice B is selected set score to 1.*

17. You are enroute to assist vessel A. Vessel A is underway at 4.5 knots on course 233°T, and bears 264°T, 68 miles from you. What is the time to intercept if you make 13 Knots?

- (A) 6h 31m
- (B) 6h 47m
- (C) 7h 03m
- (D) 7h 37m

*If choice D is selected set score to 1.*

18. When a buoy marks a channel bifurcation, the preferred channel is NOT indicated by \_\_\_\_\_.

- (A) the light color of a lighted buoy
- (B) the shape of an unlighted buoy
- (C) the color of the topmost band
- (D) whether the number is odd or even

*If choice D is selected set score to 1.*

19. Which symbol represents a 20-fathom curve?

- (A) -.-.-.-.-.-.-
- (B) -----
- (C) -.-.-.-.-.-.-
- (D) -----

*If choice A is selected set score to 1.*

**20.** The Coast Guard Captain of the Port has excluded all traffic from a section of a port, while a regatta is taking place. The buoys marking this exclusion area will be \_\_\_\_\_.

- (A) yellow
- (B) orange and white
- (C) nun- or can-shaped to conform to the overall direction of navigation
- (D) marked with a spherical topmark

*If choice B is selected set score to 1.*

**21.** You are in a channel inbound from sea. A daymark used to mark a channel junction, when the preferred channel is to port will have the shape indicated by what letter in illustration D045NG below?

- (A) A
- (B) B
- (C) C
- (D) D

*If choice D is selected set score to 1.*

**22.** You are underway and pass by a lighthouse. Its light, which was white since you first sighted it, changes to red. This means \_\_\_\_\_.

- (A) it is the identifying light characteristic of the lighthouse
- (B) the light is characterized as alternately flashing
- (C) you have entered an area of shoal water or other hazard
- (D) the lighthouse has lost power and has switched to emergency lighting

*If choice C is selected set score to 1.*

**23.** The period of a lighted aid to navigation refers to the \_\_\_\_\_.

- (A) time required for the light to complete each cycle
- (B) time required for the longest flash of each cycle
- (C) date of construction or establishment
- (D) length of time between flashes of the light

*If choice A is selected set score to 1.*

**24.** Between the equator and the 46th parallel of latitude, there are 3099 meridional parts. How many degrees of equatorial longitude does 3099 meridional parts represent?

- (A) 35°52'45"
- (B) 51°39'00"
- (C) 74°21'11"
- (D) 82°36'12"

*If choice B is selected set score to 1.*

**25.** Which statement about a gnomonic chart is correct?

- (A) Meridians appear as curved lines converging toward the nearer pole.
- (B) A rhumb line appears as a straight line.
- (C) Distance is measured at the mid-latitude of the track line.
- (D) Parallels, except the equator, appear as curved lines.

*If choice D is selected set score to 1.*

**26.** If the current and wind are in the same direction, the sea surface represents a wind speed \_\_\_\_\_.

- (A) lower than actually exists
- (B) higher than actually exists
- (C) that actually exists
- (D) that has no proportional relationship

*If choice A is selected set score to 1.*

**27.** Which of the following statements is TRUE regarding automatic identification systems (AIS)?

- (A) The master may, at his/her discretion, turn off the AIS if he/she believes that it may compromise the safety or security of the vessel.
- (B) AIS is always required to be operating if the vessel is within 100 nautical miles of the coastline.
- (C) Under no circumstances shall AIS be turned off while underway as this could endanger the vessel and those around her.
- (D) AIS is always required to be operating if the vessel is in or in the vicinity of a VTS area.

*If choice A is selected set score to 1.*

**28.** The chart of a beach area shows a very steep slope to the underwater beach bottom. Which type of breakers can be expected when trying to land a boat on this beach?

- (A) Surging
- (B) Converging
- (C) Spilling
- (D) Plunging

*If choice A is selected set score to 1.*

**29.** If you were sailing in the North Pacific and were interested in the ice and iceberg limits, you could find this information in the \_\_\_\_\_.

- (A) Coast Pilot
- (B) Notice to Mariners
- (C) Pilot Chart
- (D) None of the above

*If choice C is selected set score to 1.*

**30.** The shoreline on charts generally represents the mean \_\_\_\_\_.

- (A) low water spring line
- (B) high water line
- (C) low water line
- (D) tide level

*If choice B is selected set score to 1.*

**31.** Weather patterns in the Gulf Coast area of the United States are \_\_\_\_\_.

- (A) tropical over Florida and subtropical over the rest of the Gulf Coast area
- (B) those of a transition zone between tropical and a temperate area
- (C) extremely hot in summer
- (D) those of a tropical region

*If choice B is selected set score to 1.*

**32.** Your radar indicates a target; however, there is no visible object at the point indicated. A large mountain, approximately 50 miles away on the same bearing as the target, is breaking the horizon. You should suspect the radar target is caused by \_\_\_\_\_.

- (A) sub-refraction
- (B) a submerged submarine
- (C) ionospheric skip waves
- (D) ducting

*If choice D is selected set score to 1.*

**33.** Mean high water is the reference plane used for \_\_\_\_\_.

- (A) heights above water of land features such as lights
- (B) water depths on the East Coast only
- (C) all vertical measurements
- (D) soundings on the East and West Coasts

*If choice A is selected set score to 1.*

**34.** The symbol which appears beside a light on a chart reads "Gp Fl R (2) 10 sec 160 ft 19M". Which characteristic does the light possess?

- (A) It is visible two nautical miles.
- (B) Its distinguishing number is "19M".
- (C) It flashes once every ten seconds.
- (D) It has a red light.

*If choice D is selected set score to 1.*

**35.** Which statement about radio navigational warnings is TRUE?

- (A) The United States is responsible for NAVAREA warnings in the North Atlantic north of 7°N, and west of 15°W.
- (B) Long range radio navigational warnings are usually broadcast by radiotelephone, radiotelegraph, and radio-teletypewriter.
- (C) NAVAREA warnings concern only coastal navigation and inland navigation in large bays or sounds such as Puget Sound.
- (D) The topics for warnings included in HYDROLANTS, HYDROPACS, and NAVAREA warnings are the same.

*If choice D is selected set score to 1.*

**36.** Which statement about the gyrocompass is FALSE?

- (A) If an error exists, it is the same on all headings.
- (B) Its accuracy remains the same at all latitudes.
- (C) It can be used near the Earth's magnetic poles.
- (D) It seeks the true meridian.

*If choice B is selected set score to 1.*

**37.** Indications of the master gyrocompass are sent to remote repeaters by the \_\_\_\_\_.

- (A) phantom element
- (B) transmitter
- (C) follow-up system
- (D) azimuth motor

*If choice B is selected set score to 1.*

**38.** When changing from a compass course to a true course you should apply \_\_\_\_\_.

- (A) a correction for the direction of current set
- (B) variation
- (C) deviation
- (D) variation and deviation

*If choice D is selected set score to 1.*

**39.** Permanent magnetism is caused by \_\_\_\_\_.

- (A) the earth's magnetic field affecting the ship's hard iron during construction
- (B) the vertical component of the earth's magnetic field acting on the vertical soft iron
- (C) operation of electrical equipment and generators on board ship
- (D) the horizontal component of the earth's magnetic field acting on the horizontal soft iron

*If choice A is selected set score to 1.*

**40.** With respect to failure warnings and status indications, GPS receivers should provide, at a minimum, \_\_\_\_\_.

- (A) an indication within 5 seconds if the specified HDOP has been exceeded
- (B) a differential GPS status indication of the receipt of DGPS signals
- (C) a warning of loss of position
- (D) All of the above

*If choice D is selected set score to 1.*

**41.** On a weather map, a large letter "H" means \_\_\_\_\_.

- (A) horse latitudes, with rough seas and strong winds
- (B) a heavy squall line near the "H"
- (C) a high pressure area with warm, moist air, and inclement weather
- (D) a high pressure area with cool, dry air, and fair weather

*If choice D is selected set score to 1.*

- 42.** Your vessel is participating in the Voluntary Observing Ship Program, you are preparing WS Form B-80 as seen in illustration D041NG below. One-half of the sky is covered with clouds, and the anemometer indicates that the apparent wind is from 340° relative at 14 knots. You are on course 307°T at 12.6 knots. How should you encode group Nddff?
- (A) 43013
  - (B) 53414
  - (C) 54013
  - (D) 42205

*If choice D is selected set score to 1.*

- 43.** Your present weather is sunny with a steady barometer. A low swell approaches your vessel from the south with crests passing at relatively long periods of about four per minute. This usually indicates \_\_\_\_\_.
- (A) an extra-tropical cyclone
  - (B) a hurricane about 100 miles south of your vessel and heading in your direction
  - (C) a tropical cyclone south of your vessel
  - (D) a warm front from the south

*If choice C is selected set score to 1.*

- 44.** The left half of the storm is called the navigable semicircle because \_\_\_\_\_.
- (A) the wind speed is decreased by the storm's forward motion
  - (B) the wind tends to blow vessels away from the storms track
  - (C) Both A and B
  - (D) Neither A nor B

*If choice C is selected set score to 1.*

- 45.** In the Northern Hemisphere you are caught in the dangerous semicircle of a storm with plenty of sea room available. The best course of action is to bring the wind on the \_\_\_\_\_.
- (A) port quarter and make as much headway as possible
  - (B) starboard quarter and make as much headway as possible
  - (C) starboard bow and make as much headway as possible
  - (D) port bow and make as much headway as possible

*If choice C is selected set score to 1.*

**46.** An air mass that has moved down from Canada would most likely have the symbols \_\_\_\_\_.

- (A) mPk
- (B) cTk
- (C) cTw
- (D) cPk

*If choice D is selected set score to 1.*

**47.** Uniform, grayish-white cloud sheets that cover large portions of the sky, and are responsible for a large percentage of the precipitation in the temperate latitudes, are called \_\_\_\_\_.

- (A) altostratus
- (B) cirrostratus
- (C) altocumulus
- (D) cirrocumulus

*If choice A is selected set score to 1.*

**48.** Cloud formations are minimal when the \_\_\_\_\_.

- (A) surface temperature and temperature aloft differ greatly
- (B) surface temperature and temperature aloft are equal
- (C) relative humidity is very high
- (D) barometric pressure is very low

*If choice B is selected set score to 1.*

**49.** Radiation fog \_\_\_\_\_.

- (A) dissipates during the evening
- (B) is thinnest at the surface
- (C) always forms over water
- (D) is formed by a temperature inversion

*If choice D is selected set score to 1.*

**50.** Your facsimile prognostic chart indicates that you will cross the cold front of a low pressure system in about 24 hours. You should \_\_\_\_\_.

- (A) alter course to remain in the navigable semicircle
- (B) expect clear weather, with steady winds and pressure, until the front passes
- (C) prepare for gusty winds, thunderstorms, and a sudden wind shift
- (D) expect to see cirrus clouds followed by altostratus and nimbostratus clouds

*If choice C is selected set score to 1.*

**51.** In the Northern Hemisphere, gusty winds shifting clockwise, a rapid drop in temperature, thunderstorms or rain squalls in summer (frequent rain/snow squalls in winter) then a rise in pressure followed by clearing skies, indicate the passage of a(n) \_\_\_\_\_.

- (A) cold front
- (B) anticyclone
- (C) warm front
- (D) tropical cyclone

*If choice A is selected set score to 1.*

**52.** In low latitudes, the low(s) of the diurnal variation of pressure occur(s) at \_\_\_\_\_.

- (A) noon and midnight
- (B) 0400 and 1600
- (C) noon
- (D) 1000 and 2200

*If choice B is selected set score to 1.*

**53.** A cyclone in its final stage of development is called a(n) \_\_\_\_\_.

- (A) polar cyclone
- (B) anticyclone
- (C) tornado
- (D) occluded cyclone or occluded front

*If choice D is selected set score to 1.*

**54.** A "Norther" in the Gulf of Mexico is \_\_\_\_\_.

- (A) a strong northerly wind that generally occurs between November and March
- (B) a forcible northerly wind of at least 20 knots
- (C) a wind shift to the north accompanied by a drop in temperature
- (D) All of the above

*If choice D is selected set score to 1.*

**55.** Discounting slip, if your vessel is turning RPM for 10 knots and making good a speed of 10 knots, the current could be \_\_\_\_\_.

- (A) slack
- (B) with you at 10 knots
- (C) against you at 10 knots
- (D) with you at 2 knots

*If choice A is selected set score to 1.*

**56.** You are proceeding up a channel at night. It is marked by a range which bears  $185^{\circ}\text{T}$ . You steady up on a compass course of  $180^{\circ}$  with the range in line dead ahead. This indicates that you(r)

\_\_\_\_\_.

- (A) compass has some easterly error
- (B) are being affected by a southerly current
- (C) must come right to get on the range
- (D) course is in error

*If choice A is selected set score to 1.*

**57.** Your vessel is steering course  $299^{\circ}\text{psc}$ , variation for the area is  $7^{\circ}\text{W}$ , and deviation is  $4^{\circ}\text{W}$ . The wind is from the southwest, producing a  $3^{\circ}$  leeway. What true course are you making good?

- (A)  $291^{\circ}\text{T}$
- (B)  $299^{\circ}\text{T}$
- (C)  $296^{\circ}\text{T}$
- (D)  $313^{\circ}\text{T}$

*If choice A is selected set score to 1.*

**58.** You are underway on course  $241^{\circ}\text{T}$  at a speed of 18.2 knots. You sight a daymark bearing  $241^{\circ}\text{T}$  at a radar range of 3.9 miles at 1006. If you change course at 1009, what is the course to steer to leave the daymark abeam to starboard at 1.0 mile?

- (A)  $222^{\circ}\text{T}$
- (B)  $260^{\circ}\text{T}$
- (C)  $218^{\circ}\text{T}$
- (D)  $257^{\circ}\text{T}$

*If choice A is selected set score to 1.*

**59.** You are running parallel to the coast and take a running fix using bearings of the same object. If you are making less speed than used for the running fix, in relation to the position indicated by the fix, you will be \_\_\_\_\_.

- (A) on the track line ahead of the fix
- (B) farther from the coast
- (C) closer to the coast
- (D) on the track line behind the fix

*If choice C is selected set score to 1.*

**60.** You take a bearing of  $086^\circ$  of a lighthouse. What bearing of another object would give the best fix?

- (A)  $000^\circ$
- (B)  $066^\circ$
- (C)  $112^\circ$
- (D)  $271^\circ$

*If choice A is selected set score to 1.*

**61.** You are underway in an area where the charted depth is 8 fathoms. You compute the height of tide to be -4.0 feet. The draft of your vessel is 5.0 feet (1.52 meters). You determine the depth of the water beneath your keel to be \_\_\_\_\_.

- (A) 47 feet (14.3 meters)
- (B) 39 feet (11.9 meters)
- (C) 57 feet (17.4 meters)
- (D) 43 feet (13.1 meters)

*If choice B is selected set score to 1.*

**62.** When using horizontal sextant angles of three objects to fix your position, an indeterminate position will result in which situation?

- (A) The vessel is inside of a triangle formed by the objects.
- (B) The vessel is outside of a triangle formed by the objects.
- (C) A circle will pass through your position and the three objects.
- (D) The objects lie in a straight line.

*If choice C is selected set score to 1.*

**63.** While steering a course of  $150^\circ\text{T}$ , you wish to observe the Sun for a speed check. What would the azimuth have to be?

- (A)  $060^\circ\text{T}$
- (B)  $240^\circ\text{T}$
- (C)  $090^\circ\text{T}$
- (D)  $150^\circ\text{T}$

*If choice D is selected set score to 1.*

**64.** A latitude line will be obtained by observing a body \_\_\_\_\_.

- (A) on the celestial horizon
- (B) at lower transit
- (C) on the Greenwich meridian
- (D) on the prime vertical

*If choice B is selected set score to 1.*

**65.** In which month will the equatorial counter current be strongest?

- (A) April
- (B) January
- (C) August
- (D) October

*If choice C is selected set score to 1.*

**66.** The velocity of a rotary tidal current will be decreased when the Moon is \_\_\_\_\_.

- (A) new
- (B) full
- (C) at apogee
- (D) All of the above

*If choice C is selected set score to 1.*

**67.** The time meridian that is used when computing the currents for Pensacola Bay, Florida, is \_\_\_\_\_.

- (A) 60°W
- (B) 75°W
- (C) 90°W
- (D) 105°W

*If choice C is selected set score to 1.*

**68.** The distance between the surface of the water and the tidal datum is the \_\_\_\_\_.

- (A) range of tide
- (B) height of tide
- (C) charted depth
- (D) actual water depth

*If choice B is selected set score to 1.*

**69.** You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a gyro heading of 039°.

HEADING	HEADING	HEADING
<u>PSC-PGC</u>	<u>PSC-PGC</u>	<u>PSC-PGC</u>
358.5°-354°	122.5°-114°	239.5°-234°
030.5°-024°	152.0°-144°	269.0°-264°
061.5°-054°	181.0°-174°	298.0°-294°
092.0°-084°	210.0°-204°	327.5°-324°

- (A) 0.8°E
- (B) 0.5°W
- (C) 0.0°
- (D) 1.0°W

*If choice D is selected set score to 1.*

**70.** Your vessel is proceeding up a channel, and you see a pair of range lights that are in line ahead. The chart indicates that the direction of this pair of lights is 311°T, and the variation is 8°E. If the heading of your vessel at the time of the sighting is 305° per standard magnetic compass, what is the correct deviation?

- (A) 6°W
- (B) 2°E
- (C) 2°W
- (D) 6°E

*If choice C is selected set score to 1.*

## D026NG



# National Maritime Center

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## D041NG

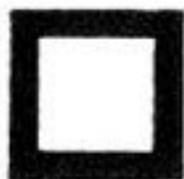
WS FORM B-80 (5-94) PRES. BY WMO DIRECTIVES		<b>WEATHER REPORT FOR IMMEDIATE TRANSMISSION</b>				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE
NO.	SHIP NAME	DATE SENT (UTC)	TIME SENT (UTC)	STA. CALLED	FREQUENCY	
<b>ADDRESSES</b>						
U.S. Coast Guard: No address needed, start with BBXX indicator and ship's call sign.						
<b>INMARSAT</b> Standard A: Select—Coast Earth Station (CES), routine priority, duplex telex channel, and initiate call. When GA + is received, select 41 +. Upon receipt of answerback, NWS OBS MHTS, send the weather report starting with the BBXX indicator and ship's call sign. End the report with 5 periods. Try to limit INMARSAT call time to 30 seconds. Standard C: To establish special access code 41, see manufacturers recommended instructions for set-up, or the Mariners Weather' Log Summer, 1994, or later editions.						
U.S. commercial and foreign radio stations: To: OBS METEO _____ (get address from "Radio Stations Accepting. . . ."). Start with BBXX indicator and ship's call sign and combine the remaining numbers into 10-character groups.						
INDICATOR	CALL SIGN	YYGGi <sub>w</sub>	99L <sub>a</sub> L <sub>a</sub> L <sub>a</sub>	Q <sub>c</sub> L <sub>o</sub> L <sub>o</sub> L <sub>o</sub>	i <sub>R</sub> i <sub>x</sub> hVV	Nddff
BBXX			99		4	
ØØff	1S <sub>n</sub> TTT	2S <sub>n</sub> T <sub>d</sub> T <sub>d</sub> T <sub>d</sub>	4PPPP	5appp	7 <sub>ww</sub> W <sub>1</sub> W <sub>2</sub>	8N <sub>r</sub> C <sub>L</sub> C <sub>M</sub> C <sub>H</sub>
222D <sub>s</sub> V <sub>s</sub>	ØS <sub>s</sub> T <sub>w</sub> T <sub>w</sub> T <sub>w</sub>	2P <sub>w</sub> P <sub>w</sub> H <sub>w</sub> H <sub>w</sub>	3d <sub>w1</sub> d <sub>w1</sub> d <sub>w2</sub> d <sub>w2</sub>	4P <sub>w1</sub> P <sub>w1</sub> H <sub>w1</sub> H <sub>w1</sub>	5P <sub>w2</sub> P <sub>w2</sub> H <sub>w2</sub> H <sub>w2</sub>	6I <sub>2</sub> E <sub>s</sub> E <sub>s</sub> R <sub>s</sub>
8S <sub>w</sub> T <sub>b</sub> T <sub>b</sub> T <sub>b</sub>	ICE	C <sub>i</sub> S <sub>i</sub> b <sub>i</sub> D <sub>i</sub> Z <sub>i</sub>	PLAIN LANGUAGE			TRANSMITTED BY
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## D045NG



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B



C



D