



DIRECCIÓN GENERAL DE AERONÁUTICA CIVIL
DEPARTAMENTO SEGURIDAD OPERACIONAL
SUBDEPARTAMENTO LICENCIAS

**Examen Teórico para Obtener o Renovar
Habilitación de Tipo Boeing 787-800 (B788)**

(Última Actualización: Junio 2016)

Materia: HABILITACIÓN PILOTOS B-787-800

Cantidad de Preguntas: 311

- 1.- The correct runway slope limits for the 787 are?**
 - A.- +3-2 %
 - B.- +2-1 %
 - C.- +/-2 %
 - D.- -1+2 %

- 2.- The Maximum operating altitude of the 787 is?**
 - A.- 42,100 feet pressure altitude
 - B.- 43,100 feet pressure altitude
 - C.- 43,300 feet pressure altitude
 - D.- 42,000 feet pressure altitude.

- 3.- Turbulent air penetration speed (severe turbulence) for the 787 below 25,000' is defined as:**
 - A.- 290 knots
 - B.- 310 knots
 - C.- 280 knots
 - D.- 300 knots

4.- Turbulent air penetration speed (in severe turbulence) for the 787 at and above 25,000' is defined as:

- A.- 300KIAS/.80Mach
- B.- 280KIAS/.78Mach
- C.- 290KIAS/.84Mach
- D.- 310KIAS/.84Mach

5.- Select the correct weight limitations for the 787-8: Maximum Taxi Weight: Metric_____. Maximum Takeoff Weight: Metric_____. Maximum Landing Weight: Metric_____. Maximum Zero Fuel Weight: Metric_____.

- A.- 248,115 kilograms 247,208 kilograms 201,849 kilograms 190,509 kilograms
- B.- 220,445 kilograms 219,538 kilograms 167,289 kilograms 156,489 kilograms
- C.- 228,383 kilograms 227,930 kilograms 172,365 kilograms 161,025 kilograms

6.- The maximum differential pressure (relief valves) for the 787 is?

- A.- 7.9 psi.
- B.- 8.8 psi.
- C.- 9.6 psi.
- D.- 9.1 psi.

7.- The maximum allowable cabin pressure differential for takeoff and landing is?

- A.- .08 psi
- B.- .11 psi
- C.- .25 psi
- D.- .50 psi

8.- Which answer below is correct pertaining to Anti -Ice operation on the 787?

A.- Engine anti-ice must be in auto on the ground or in flight if icing conditions exist or are anticipated except when the temperature is below -40° C OAT.

B.- During ground operations in icing conditions when the OAT is 3° C or below, the engine must be run up momentarily to a minimum of 70% N1 at intervals not to exceed 60 minutes.

C.- Do not use anti-ice when OAT (on the ground) is above 10° C. Do not use engine or wing anti-ice when displayed TAT (in flight) is above 10° C.

D.- Wing anti-ice can be turned on and used after engine start during taxi.

9.- Which statement concerning the use of the Autopilot system is correct?

A.- The autopilot must not be engaged below a minimum altitude of 100 feet AGL after takeoff.

B.- The autopilot must be disengaged before the airplane descends below the MDA unless it is coupled to an ILS glideslope and localizer or in the go-around mode.

C.- Without LAND 2 or LAND 3 annunciated, the autopilot must be disengaged below 100 feet AGL.

D.- Do not use the autopilot below 100 feet RA at airport pressure altitudes above 8,000 feet.

10.- Which of the following conditions listed below is/are NOT correct relating to automatic landings in the 787?

A.- Autoland capability may be made use with flaps 20, 25 or 30, with both engines operative or one engine inoperative.

B.- Category IIIb operations and autoland are approved with flaps 25.

C.- Category II automatic approach with manual landing (both engines operative or single engine inoperative) is approved for dual or triple channel (LAND 2 or LAND 3 annunciated) and for autopilot minimum use height of 100 feet AGL

D.- The maximum/minimum glideslope angles are 3.25/2.75 degrees respectively.

- 11.- **Pre-Departure Clearance, Digital Automatic Terminal Information Service, Oceanic Clearances, Weight & Balance, and Takeoff Data messages can be transmitted and received via the COMPANY format if they are verified per approved operational procedures.**
- A.- True
 - B.- False
- 12.- **Which are the correct indications of a properly entered access code?**
- A.- Produces a warning level alert to the flight crew and an amber light on the key pad.
 - B.- Produces a green light on the keypad.
 - C.- Produces an EICAS message.
- 13.- **Select the correct answer or answers regarding the engine oil system requirements for Rolls Royce Model Trent-1000 series engines on the 787:**
- A.- Oil temperature must be -40 degrees C or greater for engine start.
 - B.- After landing operate the engine for at least 3 minutes.
 - C.- Both a and b are correct.
- 14.- **The maximum tank fuel temperature for Jet A fuel is:**
- A.- 49° Celsius
 - B.- 60° Celsius
 - C.- 57° Celsius
- 15.- **Main tanks must be scheduled to be full if center tank fuel is loaded. However the center tank may contain up to _____ of fuel with less than full main tanks provided center tank fuel weight plus actual zero fuel weight does not exceed the maximum zero fuel weight, and center of gravity limits are observed.**
- A.- 1.360 kilograms.
 - B.- 10.000 kilograms.
 - C.- 2.300 kilograms.
 - D.- No restriction.

16.- Select the correct answer or answers pertaining to the following Reverse Thrust statements:

- A.- Intentional selection of reverse thrust in flight is prohibited.
- B.- Position reverse thrust levers full down (forward thrust) decelerating through 80 knots.
- C.- Backing the airplane with the use of reverse thrust is prohibited.
- D.- Both a and c are correct.
- E.- All of the above are correct.

17.- Avoid rapid and large alternating control inputs, especially in combination with large changes in pitch, roll, or yaw (e.g. large side slip angles) as they may result in structural failure at any speed, including above VA.

- A.- False
- B.- True

18.- Which statement is NOT correct with respect to the flight controls?

- A.- Avoid rapid and large alternating control inputs, especially in combination with large changes in pitch, roll, or yaw (e.g. large side slip angles) as they may result in structural failure at any speed, including below Design Maneuvering Speed.
- B.- Takeoff is permitted only in the normal or secondary mode.
- C.- Do not extend flaps above 20,000 feet.

19.- The entry and cargo door operation (opening or closing) wind limit is:

- A.- 65 knots
- B.- 50 knots
- C.- 40 knots
- D.- 30 knots

20.- Do not keep the door open when wind gust are more than:

- A.- 65 knots
- B.- 50 knots
- C.- 40 knots

D.- 30 knots

21.- The use of look-ahead terrain alerting and terrain display functions is prohibited within _____ of takeoff, approach or landing at an airport or runway not contained in the GPWS terrain database.

A.- 25 NM

B.- 50 NM

C.- 05 NM

D.- 15 NM

22.- Pilots are not authorized to deviate from their current ATC clearance to comply with a TCAS II Resolution Advisory (RA).

A.- True

B.- False

23.- Which of the following statements are correct concerning the evacuation signal system when the flight deck EVAC COMMAND switch is in the ON position?

A.- EVAC COMMAND EICAS warning is displayed on the flight deck.

B.- EVAC lights flash at the designated flight attendant switch panels.

C.- An audio horn sounds over the cabin PA system.

D.- All of the above are correct.

- 24.- The Common Core System (CCS) provides a set of shared computing, data bus, and input/output resources to support the computing and system interface needs on the airplane. The CCS main element is the Common Computing Resource (CCR), which contains a left and right cabinet. The CCS has three start-up modes depending on application of an available power source; battery only, external power, and battery start interrupted by application of external power. Which of the following statements is/are correct pertaining to the start-up modes?**
- A.- During a battery start the right CCR begins a start-up cycle of 60 seconds duration.
 - B.- When external power becomes available (AVAIL is displayed on either forward EXT PWR switch), left CCR begin a start-up cycle (approximately 3 minutes in duration), followed by the right CCR.
 - C.- When external power becomes available both CCRs are on-line when all displays and the HUD combiners show their default formats.
 - D.- Both a and c are correct.
 - E.- Both b and c are correct.
- 25.- The passenger cabin oxygen system is supplied by gaseous oxygen stored in small high-pressure cylinders. The passenger oxygen masks automatically drop from the passenger service units (PSUs) prior to the cabin altitude reaching the greater of:**
- A.- 14,000 feet.
 - B.- The origin airfield altitude + 2000 feet or destination airfield + 2000 feet.
 - C.- 15,000 feet.
 - D.- Both a and b are correct.
 - E.- Both b and c are correct.
- 26.- The indicator lights test switch turns on all non-graphical display annunciators and indicators to make sure they are working. Which of the following statements accurately describes what happens when the switch is held in the TEST position?**
- A.- All the annunciator lights illuminate to full brightness for 10 seconds to check the bulbs, then dims the lights for the next 20 seconds. If the switch is held longer than 30 seconds all annunciator lights return to full brightness.
 - B.- Illuminates all annunciator bulbs to full brightness for 10 seconds to check the bulbs, and then dims the lights as long as the switch is held.

27.- When the IND LTS switch is held in the TEST position, how are the MCP display windows tested?

A.- All displays windows on the MCP blink on for 2 seconds, then off for 1 second and repeat until the TEST switch is released.

B.- During the light TEST the liquid crystal displays on the MCP blink on and off at 1 second intervals.

28.- A fully charged battery provides _____ minutes of operation?

A.- 20

B.- 15

C.- At least 10

29.- Engine bleed air is not the source of air for the 787 air conditioning system; outside air is supplied to cabin air compressors (CACs) through two dedicated inlets. Which of the following statements regarding the air conditioning system is NOT correct?

A.- One dedicated cabin air compressor (CAC) draws air through a respective inlets located in the wing to fuselage fairing and delivers it to its dedicated pack.

B.- Air flow to the packs is controlled by regulating the CAC output to increase automatically during high demand periods (to compensate for a failed pack), or is limited during electrical load shed conditions.

C.- During normal operation, outside airflow is controlled to ensure that a minimum ventilation rate is maintained.

30.- During ground and flight operation both packs are normally selected to AUTO. Which of the following is/are true of how the cabin air compressors (CACs) are regulated during engine starts?

A.- On the ground all CACs are commanded off during initial starts.

B.- On the ground the CACs are commanded off when the first engine fuel control switch is selected on.

C.- For an in flight assisted engine start, only one CAC runs to maintain pack operation and maximize power available for the engine cross start.

D.- Both a and c are correct.

- 31.- Pushing the reset switch accomplishes the following:**
- A.- Resets any air conditioning faults and attempts to restart normal operation.
 - B.- Resets any trim air valves held closed due to overheat, control or valve failure.
 - C.- Attempts to reset any failed recirculation fan.
 - D.- All of the above are correct.
- 32.- The Alternate Ventilation System (AVS) provides an alternate means of ventilating the cabin and flight deck in the event that both packs are inoperative. Which of the following statements is NOT correct?**
- A.- The system consists of a flight deck switch and a dedicated flush inlet valve and duct that delivers outside air flow downstream of the left pack outlet.
 - B.- The switch is guarded to prevent selection, which could open the vent valve and depressurize the airplane.
- 33.- Which of the following statements about the cargo heat systems is/are correct?**
- A.- The fwd and bulk cargo compartments have independent heating systems.
 - B.- Selecting the AUTO setting on the FWD BULK CARGO TEMP switch turns on the bulk ventilation fan to allow for live animal transport.
 - C.- Automatic ventilation ensures that odors do not go from the cargo compartment to the flight deck or passenger cabin.
 - D.- All of the above are correct.
- 34.- When the forward equipment cooling switch is selected off, there is a change to the status of a number of fans, valves, and indications. Which of the following is/are NOT true of the 787 air conditioning system with the forward equipment cooling switch off (not in AUTO)?**
- A.- Both forward equipment supply fans, flight deck supply fan and vent fan are commanded off.
 - B.- Both the smoke/override valve and the flight deck isolation valve are commanded open.
 - C.- Forward cargo heat becomes inoperative.
 - D.- Forward Equipment Cooling Switch indicates OFF.

- 35.- Bleed air is supplied by the engines and is only used for engine and wing anti-ice operations.**
- A.- True
 - B.- False
- 36.- The Power Electronics Cooling System (PECS) is a liquid cooling system for the large motor power distribution system located in the aft E&E equipment compartment and provides liquid cooling to the supplemental cooling units and associated motor controllers of the Integrated Cooling System. Which of the following statements below is/are NOT correct regarding the PECS?**
- A.- There is a single loop with two fully redundant pumps on each loop.
 - B.- The system operation is completely automated and no crew action is required for either normal or non-normal modes of operation.
 - C.- Liquid quantities and status for each liquid cooling loop are displayed on the STATUS page.
- 37.- The Integrated Cooling System (ICS) is a centralized refrigeration system that provides cooling to galley carts and assists with cooling recirculated cabin air. There is no flight deck control for the ICS.**
- A.- True
 - B.- False
- 38.- The miscellaneous equipment cooling system provides cooling to equipment located in various areas of the airplane. This includes IFE equipment as well as other non-essential equipment located in the crown and areas of the lower lobe not cooled by other equipment cooling systems. The miscellaneous cooling system power can be removed using the IFE switch on flight deck overhead panel.**
- A.- True
 - B.- False

- 39.- **In flight, the Cabin Pressure Control System (CPCS) operates in a climb mode, a cruise mode, or a descent mode. The pressurization system uses ambient pressure and flight plan data from the FMC to calculate a cabin pressurization schedule. The schedule provides a comfortable cabin climb to cruise altitude. Which of the following statements about the operation of this system is NOT correct?**
- A.- If cruise altitude is unavailable from the FMC in AUTO, the default cruise altitude is 43,000 feet.
 - B.- In the cruise mode, maximum cabin altitude is no more than 6,000 feet.
 - C.- At touchdown, both outflow valves open to depressurize the cabin.
 - D.- In operation with loss of cabin pressurization, it is important that the flight crew close the outflow valves during the descent.
- 40.- **The autopilot must not be engaged below a minimum engage altitude of 200 feet AGL after takeoff.**
- A.- True
 - B.- False
- 41.- **The electric wing anti-ice system powers thermal anti-icing mats on four midwing leading edge slats on each wing. There are three separate mats on each slat. Wing anti-ice is inhibited on the ground below 80 knots. To maintain aerodynamic stability, system logic controls symmetrical operation of left and right wing anti-ice. Which of the following statements is NOT correct?**
- A.- If one wing anti-ice thermal mat fails, the wing anti-ice system automatically de-powers the opposite thermal mat to prevent asymmetrical wing icing.
 - B.- Automatic wing anti-ice operation is available in flight and on the ground above 80 knots.
 - C.- In flight, when the WING ANTI-ICE selector is AUTO the wing anti-ice system on each wing is powered anytime the TAT is below 10 degrees C.
 - D.- Wing anti-ice may be momentarily shed (30 seconds maximum) during high electrical loads, such as during flap retraction.

- 42.- The pack inlet anti-ice system provides ice protection for both ram air inlets for the cabin air compressors. Which of the following statements is/are NOT correct regarding the operation of this system?**
- A.- Bleed heat on the leading edge of each inlet prevents ice formation and reduces ice formation in the duct during icing conditions.
 - B.- Pack inlet anti-ice functions automatically with signals from the automatic ice detection system. Operation is inhibited on the ground when the total air temperature (TAT) is above 10 degrees C.
 - C.- Both a and b are correct.
- 43.- The Captains and First Officers windshields are equipped with a windshield washer system. Windshield washer switches command a continuous application of washer fluid while held in the ON position.**
- A.- True
 - B.- False
- 44.- The upper line displays speed selected by the IAS/MACH selector and lower line displays uplinked ATC clearance. During climb the selected speed automatically changes from IAS to MACH at ____ Mach and during descent it automatically changes from MACH to IAS at _____ KIAS.**
- A.- .84/290
 - B.- .83/300
 - C.- .84/310
- 45.- VNAV will disengage when the GP pitch mode is engaged on an Integrated Approach Navigation (IAN) approach.**
- A.- True
 - B.- False

46.- The autopilot system can detect the degradation of a specific autopilot mode. When an engaged autopilot mode degrades, the autopilot remains engaged in an attitude stabilizing mode based on inertial data. The condition is annunciated on the PFD and the HUD by a line drawn through the affected flight mode annunciation (amber on the PFD) and (select all of the correct responses):

A.- The respective flight director bar is removed from the PFD.

B.- The flight guidance cue is removed from the HUD.

C.- The EICAS caution message AUTOPILOT is displayed to indicate the autopilot is operating in a degraded mode.

D.- Both a and c are correct.

E.- All of the above are correct.

47.- The low visibility takeoff guidance system provides lateral guidance on the Heads Up Display (HUD) for takeoff roll and rejected takeoff using ILS or GLS signals. Select the statement(s) below that is/are correct in describing HUD guidance during takeoff:

A.- Select a HUD TAKEOFF departure in the FMC and turning either flight director on sets HUD TO/GA as the engaged roll mode on the PFD and HUD and enables the guidance.

B.- Guidance becomes active and the guidance cue appears on the HUD when the airplane approaches the runway center line and airplane heading is within 45 degrees of the runway heading.

C.- The lateral flight director bar on the PFD also moves with the guidance commands, and is certified for use during a low visibility takeoff.

D.- Both a and b are correct.

E.- All of the above are correct

48.- The AFDS provides autopilot guidance for Instrument Landing System (ILS), GBAS Landing System (GLS) and approaches utilizing Integrated Approach Navigation (IAN). Which of the following statements is/are correct relating to Integrated Approach Navigation?

A.- IAN approaches can be flown in the G/P and FAC, LOC or B/CRS modes. Approaches flown with IAN procedures always use FMC computed glidepath (G/P) for vertical path deviations.

B.- IAN requires using the APP switch on the MCP to arm roll and pitch modes as the airplane nears the final approach segment.

C.- Pushing the LOC/FAC switch arms the AFDS to capture and maintain

an approach lateral flight path to a runway using an ILS localizer beam or a lateral path provided by the FMC. (FAC)

D.- All of the above are correct.

E.- None of the above are correct

49.- During go-around from a LAND 2 or LAND 3 approach, automatic LNAV engagement causes disengagement of autopilot rudder control, but control is taken over by primary flight control system.

A.- True

B.- False

50.- The selected radio for each TCP is indicated by ACTIVE and STBY titles above the large white text of the radio name (L, C, R) and the current frequencies assigned. What is/are the correct step(s) for selecting a stored frequency and making it the active frequency?

A.- Digitally entering the stored frequency into the scratch pad then selecting it to the active line.

B.- Access the stored frequency page by using the standby frequency step control to scroll UP or DN (down) through the stored frequencies for the desired frequency.

C.- Once the desired frequency has been selected and is displayed in STBY, pushing the frequency transfer switch makes it active.

D.- Both b and c are correct.

51.- The data mode can be selected and deselected by pushing the frequency transfer switch when the word DATA is displayed on the active radio line. When a VHF radio is in the data mode, it is not available for voice communications. If the VHF radio is in the voice communications mode and the DATA mode is desired on that radio TCP, how is DATA selected?

A.- Push the frequency transfer switch.

B.- Step through the list of standby frequencies until DATA appears select it to STBY, then push the frequency transfer switch.

C.- Request a DATA frequency through Data Link, type it into the scratch pad and select it to the Active frequency line.

- 52.- **A single SATCOM system provides both data and voice communications. Flight deck voice calls are controlled using the TCPs and audio control panels. The SATCOM control pages are displayed by selecting SAT on the TCP and control functions are active when displayed with a caret (< or >).**
- A.- True.
- B.- False.
- 53.- **The cabin interphone system provides voice communications between the flight deck and the flight attendant stations. In order to call a cabin station from the flight deck, a pilot must:**
- A.- Select a cabin interphone station or stations from the center CDU to alert the desired station to pick up the call or enter the appropriate call code in the CDU scratchpad and select SEND.
- B.- Select a cabin interphone station or stations from the TCP CABIN INTERPHONE page to alert the desired station to pick up the call, manually enter a valid two digit code in the scratchpad and select MAKE CALL, or line select one of three predefined SPEED DIAL locations on the CABIN INTERPHONE page.
- 54.- **Placing the BATTERY switch to the ON position on an unpowered airplane on the ground:**
- A.- Allows the APU to be started and some switch annunciator lights are illuminated.
- B.- Initiates L CCR start-up sequence and after the L CCR start-up is complete energizes the "On-Ground Battery Only".
- C.- None of the above.
- 55.- **Which of the following statements is NOT correct regarding the 787 electrical panel?**
- A.- Bus tie isolation switches are not located on the 787 electrical panel.
- B.- There are two APU generator switches on the 787 electrical panel..
- C.- There are four EXT PWR switches including 2 FWD and 2 AFT EXT PWR switches.
- D.- There are 2 GEN CTRL and 2 DRIVE switches for each engine on the 787 electrical panel.

- 56.- The TOWING BATTERY TEST SWITCH illuminates the applicable towing battery charge light (HIGH, MEDIUM, or LOW) depending on current voltage to provide battery charge quality in time available. What are the minimum time limits in minutes (assuming no braking) to a depleted battery for each charge light?
- A.- 60, 40, 20
 - B.- 60, 30, 15
 - C.- 45, 30, 15
- 57.- The engine has two starter/generators function as electrically powered starter motors for engine start, and as engine driven generators once the engines are running. Each engine has two 235Vac variable frequency starter generators. L1 and L2 are connected to the left engine. R1 and R2 are connected to the right engine. Both function as starters to electrically start the engine. What power sources are available to the engine starters for ground start?
- A.- APU generated power.
 - B.- External power.
 - C.- Opposite engine's generated power.
 - D.- All of the above.
- 58.- Normal engine start is accomplished using electrical power supplied by the:
- A.- External Power
 - B.- APU
 - C.- Both a and b are correct.
- 59.- The APU has two 235 Vac starter/generators, designated left (L) and (R). Although both are able to function as electrical starters, only one is necessary to start the APU. For APU starts with the APU battery as the power source (no engine running and forward external power no ON) the _____ starter/generator is always used.
- A.- Left
 - B.- Right

60.- The 115 Vac external power system consists of both a forward and aft system. There are two forward and one aft power connections, with associated control panel switches. Both forward connections are normally used for ground operations. The airplane is capable of powering ground handling and ground service loads with only a single forward connection, but power for additional airplane loads is limited. Which of the following statements is NOT correct regarding external power?

A.- The aft external power system provides additional power for large loads.

B.- If only two connections are available to support main engine start (APU not operating), the two forward connections should be used.

C.- Aft external power can be used as a single source to start the left engine only.

D.- Connecting one or both power sources to the receptacles illuminates the AVAIL light(s) in the power switch(es), and energizes "Ground Handling" mode.

61.- The APU battery functions automatically and has no power switch. Which of the following is true of the functions of the APU battery?

A.- The APU battery provides power on the ground for APU start, navigation lights during battery-only towing operations.

B.- The APU battery is connected directly to the APU battery bus and provides dedicated power to the APU electric starter, electric braking and captain flight instruments.

62.- There are four main 235 Vac buses, designated L1, L2, R1, and R2. These buses can be energized by several different sources, depending on the source availability and the operation being conducted. On the ground, with only the APU power available (no external power or engine generator power), each APU generator energizes _____ of the _____ main 235 Vac buses.

A.- One; two

B.- Two; four

C.- One; four

- 63.- With one engine running (no APU or external power), that engine's two related 235 Vac buses are energized directly. The other 235 Vac buses are energized by the two powered buses.**
- A.- True
 - B.- False
- 64.- On the ground, with only the APU power available (no external power or engine generator power), each APU generator energizes two of the four main 235 Vac buses.**
- A.- True
 - B.- False
- 65.- There are multiple 28 Vdc buses. Which of the following is/are true of the 28 Vdc power distribution system?**
- A.- The 235 Vac system provides power to the 28 Vdc system through power conversion devices.
 - B.- Two electrical brake power supply units regulate power for the exclusive use of the airplane electric brake system. Each of the two power supplies receives separate 28 Vdc inputs.
 - C.- The higher amperage (greater than 10 amps) loads are distributed by the RPDU's. The lower amperage (10 amps or less) are distributed directly by the bus system.
 - D.- Both a and c are correct.
- 66.- The Circuit Breaker Indication and Control (CBIC) provides indication and control for Electronic Circuit Breakers (ECB) and indication-only for Thermal Circuit Breakers (TCB). Circuit breakers can be opened or closed using CBIC both on the ground and in flight.**
- A.- True
 - B.- False

67.- Towing power mode permits towing operations without the use of AC power. The Towing power mode is selected through the TOWING POWER switch. Which of the following accurately describes the function of the TOWING POWER switch?

A.- With the TOWING POWER switch selected to BAT position, main battery power is provided through the hot battery bus to systems required for towing.

B.- When the TOWING POWER switch is selected ON (with the main battery switch OFF), the main and APU batteries power only the equipment essential for towing operations.

68.- The airplane is powered by two Rolls Royce Trent 1000A engines. The engines are three-rotor axial flow turbofans of high compression and bypass ratio. Do the three rotors operate through a common shaft?

A.- Yes, all three rotors operate on a common shaft.

B.- No, the first two rotors are on the same shaft.

C.- No, the rotors are mechanically independent from each other.

69.- The primary engine indications for 787 Rolls Royce engines displayed on the EICAS are:

A.- TPR, N1, EGT

B.- N1, N2, EGT

C.- EPR, N1, EGT

70.- Primary and secondary engine indications are provided only on the EICAS display. Which of the following TPR indications is/are NOT correct?

A.- Maximum TPR line: red.

B.- Reference TPR limit: green.

C.- Commanded TPR: white

D.- Target FMC commanded TPR when VNAV is engaged: magenta.(Autothrottle in THR, THR REF, or not engaged.

- 71.- Does the indication change color when the maximum TPR is reached?
- A.- Yes
 - B.- No
- 72.- The command sector is amber filled when a difference between engine TPR and commanded TPR exists and engine TPR is not closing toward commanded TPR. The EICAS alert message ENG THRUST (L or R) is displayed.
- A.- True
 - B.- False
- 73.- The maximum takeoff and landing tailwind component of the 787 is?
- A.- 10 knots
 - B.- 15 knots
 - C.- 25 knots
 - D.- 18 knots
- 74.- In-Flight start envelope information is displayed in magenta on the EICAS display when the respective engine fire switch is in and the FUEL CONTROL switch is in CUTOFF, or the engine N2 RPM is below idle. Which of the following statements is true regarding the in-flight envelope depicted on the EICAS display?
- A.- The in-flight envelope indicates the airspeed range necessary to ensure an in-flight start at the current flight level.
 - B.- The in-flight envelope indicates the airspeed range for a windmilling in-flight start at the current flight level or maximum flight level (whichever is less).

- 75.- **Maximum TPR represents the maximum rated thrust available from the engine. The EEC continuously computes maximum TPR. If the required signals are not available to operate in the normal mode, the EEC automatically uses the alternate mode. In the alternate mode, TPR remains displayed in the soft alternate mode, but blanks in the hard alternate mode.**
- A.- True
 - B.- False
- 76.- **When ALTN is manually selected on an EEC mode switch, that engine is switched to the hard alternate mode. The switch is ALTN and the EEC mode is ALTN. Which of the following statements is/are NOT correct, concerning hard alternate mode?**
- A.- Reference and target N1 values are displayed on the N1 indicator.
 - B.- Commanded N1 values are not displayed on the N1 indicator.
 - C.- Red line limit is displayed on the N1 indicator.
 - D.- Automatic reversion or manual selection to the alternate mode is indicated by the EICAS advisory message ENG EEC MODE (L, R).
- 77.- **The EGT indication has a maximum continuous limit represented by an amber band. Is it permissible to operate the engine in the amber band during take-off or landing?**
- A.- Yes
 - B.- No
- 78.- **Which statements about the EGT indications is/are correct?**
- A.- EGT indications are inhibited from changing to amber during takeoff or go-around for five minutes. The inhibit is extended to ten minutes for single-engine operation.
 - B.- The EGT indication is often in the amber band during takeoff.
 - C.- The EGT indication has a maximum takeoff limit displayed by a red line.
 - D.- All of the above are correct.

79.- The EEC also provides N1, N2 and N3 red line overspeed protection. Which of the statements regarding overspeed protection is NOT correct?

A.- If N1, N2 or N3 approaches overspeed, the EEC commands reduced fuel flow.

B.- The EICAS advisory message ENG RPM LIMITED (L or R) is displayed when RPM limiting is in effect.

C.- If the EECs are in the alternate mode, advancing the thrust levers full forward will not cause an overboost.

80.- Thrust Asymmetry Protection (TAP) only functions when there is a large thrust asymmetry during takeoff or go-around. Which of the following statements are correct concerning TAP?

A.- TAP reduces thrust when the airspeed decreases below approximately V₂ on a takeoff or below approximately V_{REF} on a go-around

B.- As TAP reduces thrust, the maximum and commanded TPR tics move down to the reduced TAP thrust value, and the actual TPR indication follows. The reference/target TPR indication and the throttles do not move.

C.- The EICAS advisory message THRUST ASYM PROT is displayed if the TAP function is operative and directional control protection is available at all speeds.

D.- Both a and b are correct.

E.- Both b and c are correct.

81.- The Thrust Asymmetry Minimum Speed (TAMS) is displayed on the speed tape to provide pilots with situational awareness of the minimum control speed for operation with a large thrust asymmetry. Which of the following statements is/are correct regarding TAMS?

A.- TAP is normally selected on during pre-flight.

B.- TAMS varies with weight and CG but will always be at least 10 knots above minimum control speed during takeoff or go-around.

C.- When airspeed decreases to TAMS, the AIRSPEED, AIRSPEED aural sounds and the Master WARNING light illuminates.

D.- Both b and c are correct.

- 82.- The EEC selects minimum idle or approach idle automatically. Minimum idle is a lower thrust than approach idle. Minimum idle is selected for ground operation and most phases of flight, while approach idle decreases the acceleration time for go-around. For which of the following conditions will Approach idle NOT be selected in flight ?**
- A.- The engine anti-ice is operating.
 - B.- The flaps are commanded to 25 or greater.
 - C.- One hydraulic system air-driven demand pump is inoperative, and the flaps are out of the UP position.
 - D.- The landing gear is down.
- 83.- The engines can be started using the autostart system or manually. Autostart is the normal starting mode.**
- A.- True
 - B.- False
- 84.- The electrical system powers two starter motors mechanically connected to the N2 shaft via the accessory gearbox. During engine starts, power to run the starters is drawn from the airplane's electrical system. There are two power sources that can provide starter power; the APU and the forward external power. Normally, APU power is used to drive the engine starters. During engine start, load shed occurs:**
- A.- Always
 - B.- Never
 - C.- Sometimes, depending upon the electrical load before the engine start is initiated. Shed systems appear on their respective synoptics with the majority appearing on the electrical synoptic.
- 85.- When is the maximum start limit line (red) displayed on the EGT indication?**
- A.- The fuel control switch is moved to RUN during start until the engine is stable at idle.
 - B.- The engine is not running and the respective fire control switch is not pulled.
 - C.- The FUEL CONTROL switch is moved to CUTOFF.
 - D.- All of the above

- 86.- During ground starts, the autostart system monitors engine parameters and attempts to correct the start for a number of non-normal conditions. Which of the following conditions does the autostart system NOT monitor during engine start?**
- A.- Hot start.
 - B.- Insufficient air pressure for starter operation.
 - C.- Hung start / Stalled start.
 - D.- Ignition failure (no EGT rise)
- 87.- How many attempts does the autostart system make before cancelling a ground start?**
- A.- Three
 - B.- Two
 - C.- One
- 88.- How many attempts does the autostart system make during an in-flight start?**
- A.- Two
 - B.- Three
 - C.- Does no limit start attempts
- 89.- Which of the following statements is NOT correct regarding the ignition system during autostart?**
- A.- Both igniters are used for in flight starts.
 - B.- Main AC power is the normal power source for ignition. Standby AC power provides a backup source.
 - C.- The EEC automatically selects the appropriate ignitor(s) for successive engine ground starts.
 - D.- Aircraft supplied DC power is the normal source for the ignition. Standby power provides a back up source for energizing the ignitors.

- 90.- Engine auto-relight protection is provided for flameout and sub-idle recovery. The auto-relight function is activated on the ground and in-flight. The EEC also provides protection against flameout during periods of excessive rain/hail ingestion. What crew action is required for an engine re-light in-flight?**
- A.- Select AUTO on the ignitors during heavy rain.
 - B.- Nothing.
 - C.- Select MANUAL CONT ignition.
- 91.- Displays X-START (magenta) when current altitude and/or airspeed are outside the windmilling start envelope. Starter assist is recommended for an in-flight start. Where is the X-START indication located?**
- A.- X-START displayed as an EICAS alert message.
 - B.- At the top of the N1 indicator.
 - C.- Above the N3 indicator
- 92.- The APU is started by either the left or right APU starter. How are the APU starters powered?**
- A.- The right starter is powered by the APU battery, if required.
 - B.- Either starter can be powered by forward external power or an engine generator.
 - C.- Both a and b are correct.
- 93.- The APU is designed to be started with no pumps operating when on the ground or in-flight up to _____ feet.**
- A.- 10,000
 - B.- On the ground only
 - C.- 14,000
 - D.- 20,000
- 94.- The APU battery powers:**
- A.- The APU fire detection system.
 - B.- The APU controller (APUC) and the APU air inlet door.
 - C.- APU fuel spar valve and DC fuel pump.

- 95.- **If starting the APU from an unpowered airplane (battery switch recently moved to ON), What does the APU controller check before proceeding with the APU start?**
- A.- Fuel pressure from the right fuel manifold.
 - B.- That the common core systems (CCS) applications are available.
 - C.- You can't start the APU.
- 96.- **What does the common core system (CCS) provide during an APU start?**
- A.- APUC control
 - B.- Fire detection and fuel management.
- 97.- **APU fuel is supplied from the left fuel manifold by any operating AC fuel pump, or by the DC fuel pump in the left main tank. With AC power available, and the APU selector in the ON position, the _____ fuel pump is commanded on regardless of flight deck position.**
- A.- Left aft
 - B.- Left forward
 - C.- Right aft
- 98.- **How can you be assured when the CCS applications are available during a battery only APU start?**
- A.- EICAS message CCS NORMAL.
 - B.- APU RUN EICAS message.
 - C.- The CDU page format is visible on the lower display unit.
- 99.- **When is the APU automatically commanded on in flight?**
- A.- Loss of one engine
 - B.- Loss of two generators
 - C.- Loss of three or more generators

- 100.- When an engine fire switch is in the IN position (normal position, mechanically locked), it unlocks automatically for a fire warning, or when the FUEL CONTROL switch is in CUTOFF. Which of the following is NOT a correct statement regarding the effects of pulling an engine fire switch to the OUT position?**
- A.- It arms both fire extinguishers.
 - B.- It closes the associated engine and spar fuel valves.
 - C.- It closes the associated engine bleed air valves.
 - D.- It trips the associated engine generators off.
- 101.- When the APU Fire Switch is in the IN position (normal position, mechanically locked), it unlocks automatically for a fire warning. Which of the following statements is NOT correct regarding the effects of pulling the APU fire switch to the OUT position?**
- A.- It arms the APU fire extinguisher bottle.
 - B.- It closes the APU fuel valve
 - C.- It closes the APU air inlet door.
 - D.- It closes the APU bleed air valves.
- 102.- Which statement is NOT correct regarding APU fire extinguishing?**
- A.- On the ground with both engines off an APU fire signal from either APU fire detector loop causes APU shut down and extinguisher bottle discharge.
 - B.- An APU fire signal from either APU fire detector loop causes APU shutdown and an automatic extinguisher bottle discharge after 15 second delay.
- 103.- The Cargo Fire Arm switches are located on the overhead panel. Which of the following statements is NOT correct after placing a cargo fire arm switch in the ARMED position?**
- A.- It puts associated (fwd or aft) equipment cooling system into the override mode.
 - B.- It turns off miscellaneous equipment cooling fan (forward cargo fire only).
 - C.- It activates lower crew rest evacuation system (aft cargo fire only).
 - D.- It shuts off the inflight entertainment equipment (IFE) cooling.

- 104.- There are multiple dual-channel detector assemblies in each engine nacelle.**
A.- True
B.- False
- 105.- Turbine overheat detection is provided in addition to engine fire and engine overheat detection. What flight deck indications occur when a turbine overheat is detected?**
A.- An EICAS message TURBINE OVHT L, R is displayed.
B.- The same flight deck indications appear as with an engine overheat.
- 106.- How many engine fire extinguisher bottles are located on the 787?**
A.- Four (two per engine)
B.- Two (either bottle can be used in either engine)
- 107.- During flight, after a fire warning from the cargo fire detection system, the CARGO FIRE DISCHARGE switch light on the 787 illuminates and the EICAS advisory message BOTTLE DISCH CARGO is displayed after the first two extinguisher bottles have completely discharged.**
A.- True
B.- False
- 108.- On the ground, if a CARGO FIRE DISCHARGE switch is pushed, _____ extinguisher bottles discharge simultaneously into the selected compartment, with the last bottle discharging at a reduced flow rate.**
A.- Two
B.- Three

- 109.- **When the fire and overheat test is complete, the EICAS warning message FIRE TEST PASS or FIRE TEST FAIL replaces the FIRE TEST IN PROG message; the switch can be released. The appropriate system EICAS messages are displayed with the FIRE TEST FAIL. Which of the following messages is NOT part of the 787 failure indications?**
- A.- DET OVHT ENG (L or R)
 - B.- DET FIRE APU
 - C.- DET FIRE ENG (L or R)
 - D.- DET FIRE CARGO (FWD or AFT)
 - E.- DET FIRE WHEEL WELL
- 110.- **The FMC calculated stabilizer takeoff digital readout and pointer are not displayed on the stabilizer position indicator when the signal is invalid or there is no signal. Which of the following is/are true of the stabilizer trim data displayed on the Engine Indication and Crew Alerting System (EICAS) on the ground?**
- A.- FMC calculated stabilizer takeoff setting data is displayed in Magenta.
 - B.- The takeoff trim green band indicates the allowable takeoff trim range, based upon gross weight and CG information from the FMC.
 - C.- Box digital readout and pointer are displayed green when FMC performance data is entered and pointer is within green band.
 - D.- All of the above are true.
- 111.- **Two nose gear pressure transducers provide actual airplane gross weight and CG information. The nose gear pressure data is used to determine two separate sets of validation limits (one for each transducer). The FMC calculated stabilizer green band is then compared to the validation limits from the transducers. Which of the following statements below regarding the EICAS advisory message "STAB GREENBAND".**
- A.- Computed greenband disagrees with nose gear pressure transducer data.
 - B.- The two transducer values are not within the set tolerance.
 - C.- Either transducer has failed.
 - D.- Any of the above conditions will produce the "STAB GREENBAND" EICAS message.

- 112.- The normal mode roll control system in the 787:**
- A.- Is similar to conventional airplanes. Aileron and flaperons surface deflections are proportional to control wheel displacement. Spoilers begin to extend to augment roll control after several degrees of control wheel rotation.
 - B.- Automatically positions the ailerons, flaperons, and spoilers to generate the commanded maneuver. It constantly monitors airplane response to pilot inputs and repositions the lateral surfaces to carry out these commands.
 - C.- Both a and b are correct.
- 113.- The flight control system automatically positions the ailerons, flaperons, and spoilers to generate the commanded maneuver. It constantly monitors airplane response to pilot inputs and repositions the lateral surfaces to carry out these commands. The ailerons are locked out at high speeds. Do control wheel forces change with airspeed changes?**
- A.- Yes.
 - B.- No.
- 114.- Airplane roll control is different in the secondary and direct flight control modes. The flight control system continues to receive and process pilot control inputs, however, it now uses simplified computations to generate flight control surface commands.**
- A.- True
 - B.- False
- 115.- In the normal mode, airplane yaw control characteristics are similar to conventional airplanes. Which of the following statements accurately describes yaw control in the 787?**
- A.- If the thrust level on one engine differs by 10 percent or more from the other engine, TAC automatically adds rudder to minimize yaw.
 - B.- The rudder pedals do not directly position the rudder surface in flight, they instead command a sideslip maneuver with a rate dependent upon pedal displacement.
 - C.- On the ground above 60 knots groundspeed, the flight control system attempts to maintain a yaw rate near zero by commanding rudder to counter the majority of the yawing moment due to an engine failure.
 - D.- Both b and c are correct.

E.- Both a and c are correct.

116.- During flight, a roll/yaw asymmetry condition occurs. Which of the following statements does NOT accurately describe the automatic yaw control functions of the 787 in correcting a roll/yaw asymmetry?

A.- The flight control system initially attempts to maintain zero roll rate and sideslip. An automatic rudder input counters the yawing moment and an automatic lateral control input counters the rolling moment.

B.- The rudder pedals move to give the pilot awareness of the automatic function and the resulting rudder trim indication is automatically shown on the EICAS display.

C.- For large asymmetries the EICAS caution message ROLL/YAW ASYMMETRY is displayed.

D.- Automatic lateral and rudder inputs are available in the normal and secondary flight control modes and can be overridden by manual control wheel or rudder pedal inputs.

117.- On the ground above 60 knots groundspeed, the flight control system attempts to maintain a yaw rate near zero by commanding rudder to counter the majority of the yawing moment due to an engine failure. The capability to counter a thrust asymmetry is an inherent part of the flight control system. The pilot can still recognize the initial onset of an engine failure through:

A.- Airplane yaw cue

B.- Rudder pedal movement

C.- Both a and b are correct.

118.- When is the wheel to rudder cross-tie function available in the 787?

A.- In all three flight control modes

B.- In the secondary and direct modes only.

C.- In flight it is operative below 210 knots in the normal modes.

119.- Bank angle protection reduces the likelihood of exceeding the bank angle boundary due to external disturbances, system failures or inappropriate pilot action. When is the protection functions available in the B787?

A.- In all three flight control modes. The function is only active with the autopilot engaged in the altitude hold or VNAV level flight modes.

B.- In the secondary and direct modes only.

C.- In the normal mode during manual control and do not reduce pilot control authority.

120.- Manual rudder trim operation is provided in all three flight control modes by a rudder trim selector located on the aft aisle stand. If rudder trim is selected on the ground does it affect the takeoff performance?

A.- YES, the rudder indicator is displaced on the EICAS and the rudder pedals are also displaced for crew awareness during takeoff.

B.- NO, manual trim inputs are automatically zeroed when ground speed exceeds 30 knots, and further manual trim inputs are inhibited until in the air.

121.- How does the airplane transition from the air “side slip” mode to the ground “yaw control” mode after landing?

A.- The sideslip is maintained after landing.

B.- The side slip mode is cancelled when the A/P is disconnected after landing.

C.- On landing, automatic and manual rudder trim inputs are zeroed, so they do not provide a yaw command.

122.- There are seven sets of spoilers, 4 outboard and 3 inboard of the flaperons, on the upper surface of each wing. All three hydraulic systems supply 5 pairs of spoilers. The remaining two spoiler pairs are individually powered by two electrical buses.

A.- True

B.- False

- 123.- The alternate pitch trim is controlled by the dual pitch trim switches located on the control stand next to the parking brake lever. They are spring loaded to neutral. When both switches are pushed they:**
- A.- Directly move the stabilizer on the ground.
 - B.- Change the trim reference speed in the normal mode in the air.
 - C.- Directly move the stabilizer in the secondary and direct modes in the air.
 - D.- All of the above are correct.
 - E.- Answer a and b are correct.
- 124.- Alternate pitch trim commands have priority over primary pitch trim commands in all flight control modes. Does alternate pitch trim operate in the same manner in all flight control modes?**
- A.- Yes.
 - B.- No. In the normal mode, alternate pitch trim operates differently on the ground than it does in flight.
 - C.- No. In the secondary or direct modes, alternate pitch trim operates differently on the ground than it does in flight.
- 125.- The 787 stabilizer is electrically controlled. In NORM (normal), electrical power is supplied to the related stabilizer control unit. If unscheduled stabilizer motion is detected:**
- A.- Electrical power to the related stabilizer control unit is automatically shut off.
 - B.- Center and/or right system hydraulic power to the related stabilizer trim control module is automatically shut off
 - C.- Both a and b are correct.
- 126.- Stabilizer position is displayed on EICAS and on the flight control synoptic. The EICAS stabilizer position indication includes a takeoff green band. The EICAS indication is displayed on the ground at power-up and blanks if a following condition is satisfied:**
- A.- Gear up for 10 seconds, or 60 seconds after liftoff.
 - B.- After flap retraction or 120 seconds after liftoff.
 - C.- The stabilizer signal is not present or is invalid.

- 127.- On the ground the EICAS stabilizer position indication automatically displays if which of the following conditions are satisfied?**
- A.- After landing the autopilots are disengaged.
 - B.- After landing and any of pitch trim switches are used.
 - C.- After landing and groundspeed is less than 40 knots.
- 128.- A digital readout on the EICAS displays rudder position in 0.2 increments from 0.0 to 1.0 unit and in 0.5 increments between 1.0 and 17.0 units of trim. When the rudder signal is not present or invalid, the digital readout, left/right indication and pointer _____ displayed on the rudder indicator.**
- A.- Are.
 - B.- Are displayed at the last known position.
 - C.- Are not.
- 129.- In the normal mode during manual flight the ACEs receives pilot control inputs and sends these signals to the three primary flight computers (PFCs). The PFCs verify these signals and information from other airplane systems to compute enhanced control surface commands. Which of the following statements which is NOT correct regarding the operation of the flight control system?**
- A.- When the autopilot is engaged, the autopilot system sends control surface commands to the PFCs.
 - B.- The PFC signals are sent to the ACEs and then to the flight control surface actuators.
 - C.- The autopilot is available only in the primary and secondary modes.
 - D.- Both a and b are not correct.

- 130.- In the unlikely event of the loss of all hydraulic power, the electrically actuated stabilizer and two spoiler pairs allow pilot control of pitch and roll using the primary pitch trim switches, alternate pitch trim switches, and the control wheel. In the event of a complete loss of flight control signaling how are pitch and roll controlled?**
- A.- The stabilizer is controlled manually and the rudder is trimmed electrically.
 - B.- The roll is controlled by mechanical tabs on the ailerons.
 - C.- Direct wiring from the flight deck to the stabilizer and a spoiler pair allow pilot control of pitch and roll using the alternate pitch trim switches and the control wheel.
- 131.- The column cutout function is designed to stop the effects of uncommanded pitch trim input from jammed or failed pitch trim switches. Which of the following statements is/are true of the function of the column cutout function?**
- A.- The column cutout function is active on the ground and in the air.
 - B.- Column cutout is only available in the Normal and Secondary modes.
 - C.- If a nose up or nose down pitch trim command from either the primary or alternate trim switches is opposed by either control column for more than 5 seconds, the column function disables the specific pitch trim switch commands until the switch input indicates no trim input.
 - D.- Both a and c are correct.
- 132.- The Autodrag function operates by deflecting the ailerons and the two most outboard spoilers, while maintaining airspeed, to help facilitate glidepath capture when the airplane is above the vertical path. Which of the following statements is/are true regarding the operation of the Autodrag function?**
- A.- Autodrag is only available in the Normal mode.
 - B.- Autodrag functions only in landing configuration: flaps 25 or 30 and the thrust levers are in idle.
 - C.- Autodrag surface deflection is removed below 1,000 feet above ground level so flare and touchdown are not affected.
 - D.- Both a and b are correct.
 - E.- All of the above are correct.

- 133.- In the secondary control mode, how are the flaps and slats controlled and extended?**
- A.- Controlled separately and positioned electrically.
 - B.- Controlled separately and positioned either by Hydraulic or Electric motors.
- 134.- The flap load relief system protects the flaps from excessive air loads. To protect against inadvertent deployment during cruise, flap and slat extension from the UP position is inhibited when the speed is more than 260 knots or the altitude is above approximately 20,000 feet. This inhibit is only available in primary flap and slat modes.**
- A.- True
 - B.- False
- 135.- At a high angle of attack, the slat autogap function extends the slats to increase the wing camber, thus increasing the wing lift and the stall margin. Which of the following accurately describe the functions of the slat autogap and slat pregap?**
- A.- The slat autogap function is only available in the primary mode when the slats are in the middle position and the airspeed is below 225 knots.
 - B.- In the secondary mode, the slats automatically move to the extended position from the middle position when the flap lever is not UP and airspeed is less than 225 knots. The slats remain in the extended position until the flap lever is in the UP position or airspeed is above 225 knots.
 - C.- In the secondary mode, a pregap function exists.
 - D.- All of the above are correct.
- 136.- Cruise flaps is an automated function that improves the airplane's cruise performance by symmetrically moving the flaps, ailerons, flaperons, and spoilers. Cruise flaps optimizes performance in cruise by varying the camber of the wing and thus reducing drag. How does the pilot know if the system fails with flaps in an increased drag condition?**
- A.- The MASTER CAUTION system is activated.
 - B.- An EICAS CAUTION advisory is displayed.
 - C.- An advisory message CRUISE FLAPS SYS is displayed.

- 137.- A disagree is detected when the flaps or slats do not move or move too slowly after a commanded input. If the flap or slat is operating in the primary mode, and the rate of motion is less than half the normal rate, an automatic transfer to the secondary mode occurs. The EICAS message FLAPS PRIMARY FAIL and/or SLATS PRIMARY FAIL is displayed. What happens if motion continues at less than half the normal rate?**
- A.- The flaps continue to operate but the slower rate.
 - B.- The system shuts down. The EICAS message FLAPS DRIVE and/or SLATS DRIVE is displayed.
- 138.- The mini-map on the PFD display has new features including limited navigation information. Which of the following items does NOT accurately describe information displayed upon the mini-map?.**
- A.- The active waypoint is shown at the top right portion of the mini map display, and a portion of the active leg segment is shown (magenta line).
 - B.- The view is expandable up to 20 miles.
 - C.- Heading/track reference box and current heading are displayed.
 - D.- Wind direction and speed are displayed.
- 139.- Actual Navigation Performance (ANP) and Required Navigation Performance (RNP) scales are displayed when LNAV is active or armed.**
- A.- True
 - B.- False
- 140.- With flaps out of up, but not in landing position, activation of VNAV in VNAV PTH changes the reference thrust limit to CRZ. However, pressing TO/GA changes the reference thrust limit to GA and GA thrust is available. (Figura 5)**
- A.- True
 - B.- False

- 141.- In the MAN mode (illuminated amber) (1) (Figure 1)**
- A.- Outflow valve is controlled manually
 - B.- Bypasses automatic outflow valve control and cabin altitude limiter
 - C.- AUTO remain in white.
 - D.- Both a and b are correct
 - E.- All of the above are correct
- 142.- This Symbol represents: (Figure 2)**
- A.- Pack failed
 - B.- Pack signal invalid
 - C.- Valve failed open
 - D.- Both a and c are correct
- 143.- Push – Transfers the IAS or Mach value from the lower line to the upper line. If the upper line was blank/closed, it now opens to the uplinked ATC value. Lower line blanks after the transfer. Select the following statement(s) that are correct on the functions of the Uplink Transfer Switch: (Figure 3)**
- A.- Uplinked clearances are preceded by the letters “UL”. For conditional clearances, pushing the ACCEPT switch automatically displays clearance IAS or Mach value in the lower line.
 - B.- The ATC uplink function is always enabled. For immediate clearances, pushing the datalink ACCEPT switch displays the clearance IAS or Mach value in the lower line of the window.
 - C.- If the upper line was blank/closed, it remains unchanged. Pushing the datalink CNCL switch removes the clearance from the lower line.
 - D.- All of the above are correct.
- 144.- The upper line displays the selected heading or track and the lower line displays uplinked ATC heading or track target. The selected heading or track is displayed on the PFD, HUD and ND. Which of the following statements is/are correct? (Figure 4)**
- A.- For immediate clearances, pushing the datalink ACCEPT switch displays the clearance heading or track value in the lower line of the window.
 - B.- Pushing the uplink transfer (XFR) switch transfers the value from the lower line to the upper line. Pushing the datalink CNCL switch removes the

clearance from the lower line.

C.- For conditional clearances, pushing the ACCEPT switch displays the new heading or track value automatically in the lower line.

D.- All of the above are correct.

E.- Answer a and c are correct.

145.- The radio communications systems consist of a very high frequency (VHF) communication system, a high frequency (HF) communication system, the satellite communication system, and the selective calling system. Three independent VHF voice/data radios, designated VHF L (left), VHF C (center), and VHF R (right) are installed. Which of the following statements is NOT correct regarding the VHF communication system? (Figure 5).

A.- Each VHF radio is controlled only through its respective TCP.

B.- When a VHF radio is tuned to frequency 121.5, all flight crew automatically monitor the radio. The receiver lights on all audio control panels illuminate.

C.- Only one VHF radio can operate in the data mode at a time.

D.- ----- - X - ----- is displayed on the TCP when the affected radio (X) is inoperative.

E.- In the event of electrical power loss, the left VHF radio and left TCP continue to operate on standby power.

146.- On the PFD the lateral deviation scale appears on the bottom of the display and the vertical deviation scale appears on the right side of the display. On the lateral and vertical scales, the outer white lines represent RNP and the center white lines represent aircraft position. Which of the following statements accurately describe information displayed on the PFD deviation scales?

A.- The bars represent ANP and the bars on the vertical scale display only during FMC descent phase of flight.

B.- The area between the bars indicates the margin available to remain within RNP criteria.

C.- If ANP is equal to or exceeds RNP the bars and scale turn amber after 10 seconds and the NAV UNABLE RNP EICAS message is displayed.

D.- Both a and b are correct.

E.- Both a and c are correct.

- 147.- The NPS Deviation Pointer indicates the navigation path relative to the airplane position. Which of the following statements is/are true regarding the NPS Deviation Pointer?**
- A.- It is displayed on the lateral deviation scale whenever the scale is displayed.
 - B.- It is displayed on the vertical deviation scale only in the descent phase of flight.
 - C.- It is a filled magenta triangle when parked at the deflection limit.
 - D.- d. Both a and b are correct.
- 148.- The NPS Deviation Pointer indicates the navigation path relative to the airplane position. Select the correct statement or statements relative to the deviation pointer from the list below:**
- A.- It is an unfilled magenta triangle when displayed for FAC or GP.
 - B.- Flashes for ten seconds if pointer migrates into bar area for five seconds or ANP bars meet in the middle of the deviation scale.
 - C.- Both a and b are correct.
- 149.- The approach reference displays either ILS or GLS approach front course.**
- A.- True
 - B.- False
- 150.- On the 787, the selected track bug and the selected heading bug may be displayed at the same time.**
- A.- True
 - B.- False
- 151.- In the reversion mode, the PFD with mini-map is cropped to fit within a Multi Function Display window (one-half of a Display Unit). All PFD symbology remains in the same relative position referenced to the airplane symbol center.**
- A.- True
 - B.- False

- 152.- The Vertical Situation Display (VSD) presents a profile view of the airplane and its environment. Information shown within the cyan dashed lines (VSD corridor) on the Navigation Display (ND) is shown in profile on the VSD. Which of the following is true about the VSD?**
- A.- The VSD is automatically selected on whenever the map is selected on the ND.
 - B.- Track mode is the default mode of operation and a route mode is also available. Range is displayed in nautical miles.
 - C.- The altitude reference scale displays altitude in reference to the vertical position of the airplane symbol, terrain, and other objects in the VSD background display.
 - D.- Both b and c are correct.
 - E.- All of the above are correct.
- 153.- The VSD Terrain Profile Line represents the highest terrain within the enroute corridor. The terrain profile line:**
- A.- Represents the highest points of the terrain below and ahead of the airplane.
 - B.- The terrain is depicted so the true altitude separation between the airplane and the terrain is shown.
 - C.- The VSD uses the same color coding that is used to depict GPWS on the lateral map.
 - D.- All of the above are correct.
- 154.- The Navigation Display (ND) Mode Selector (outer) may select the following options:**
- A.- APP, VOR, MAP and PLN.
 - B.- MAP, PLAN and MENU.
 - C.- APP, MAP, PLN and MENU.
- 155.- In the 787 some map switches have been replaced with map/plan keys that are selectable with:**
- A.- The ND Mode Selector on the EFIS control panel.
 - B.- The Cursor Control Device.
 - C.- MFD Cursor Control Selector on the Multifunction Keypad (MFK).
 - D.- All of the above.

- 156.- The map and plan keys allow access to drop down menus when selected. Each key is _____ when available for selection and _____ when currently selected. All map keys and information selections are highlighted by a _____ box when the cursor is placed on top of the item.
- A.- cyan; magenta; green
 - B.- Gray; green; magenta
 - C.- White; magenta; green
- 157.- The Pick Waypoint key allows the pilot to graphically create a latitude/longitude point or select a visible waypoint, airport, or navigation aid. The key:
- A.- Is always in view when the scratchpad is empty.
 - B.- Is visible only when the cursor is on the ND map area.
 - C.- Enabled when the outside CDU is displayed and the scratchpad is empty.
 - D.- Both a and c are correct.
 - E.- Both b and c are correct.
- 158.- The instrument source switches allow the pilot to reconfigure display units in the event of a failure that is not detected by the automatic system monitors. Normally, the display system automatically reconfigures for failures without the pilot having to use these switches. The INBD DU and OUTBD DU positions of the PFD/MFD switches are:
- A.- Normal switch positions.
 - B.- Non-normal switch positions.
- 159.- Pushing the left or right Multifunction Display Switch (MFD) selects:
- A.- The on-side MFD location (left or right window on each upper display unit) on either of the two upper display panels on the glareshield.
 - B.- The active MFD (left inboard, lower center, or right inboard display unit).

160.- Pushing the EICAS Transfer Switch:

A.- Displays EICAS information on the inboard MFD. A second push of the same switch causes the EICAS information to be removed from the MFD and the default format to be displayed.

B.- Transfers EICAS format between the Captain and First Officer inboard display units.

161.- There are two Multifunction Keypads on the forward aisle stand. Each MFK controls the inboard DU and the lower center display unit cursor position and operation on its respective side. Which of the following statements are true regarding the operation of the MFKs?

A.- Pushing a “Lower MFD” switch displays the associated format. Pushing the same switch a second time causes the MFD format to be removed and the default format to be displayed.

B.- The Lower MFD switches are ENG, STAT, CHKL, COMM and NAV.

C.- The Lower MFD switches are SYS, CDU, INFO, CHKL, COMM and ND.

D.- Both a and b are correct.

E.- Both a and c are correct.

162.- When pushed, the Alpha/Numeric keys on the MFK put the selected character in the scratchpad.

A.- True

B.- False

163.- There are two CCDs located on the control stand that control cursor position and operation. Each CCD cursor location switch controls its respective _____ unit as selected.

A.- Side, Inboard, and Lower Center displays.

B.- Inboard display unit, Lower display unit, and EFB.

164.- The Auxiliary (AUX) Display is located on the Outboard Display Units and contains the following information:

A.- Uplinked air traffic control (ATC) messages.

B.- Flt number, MIC, XPDR, Tail number.

C.- Date and Time functions.

D.- All of the above.

165.- The EFIS/DSP systems display provides an alternate way to control the functions of the EFIS control panel and/or the display select panel. This display is selected:

A.- On the SYS page. Backup EFIS controls must be enabled prior to activation.

B.- By pressing the EFIS CTL key on the CDU Menu page.

C.- By pressing the DSP key on the CDU Menu page.

166.- The 787 HUD is a supplementary display system that provides a pilot with the ability to maintain “eyes-out” under all phases of flight. There are two (HUD) systems, one for each pilot. Which of the following statements is/are true regarding the 787 HUD?

A.- Most HUD symbology is the same as the Primary Flight Display symbology.

B.- The HUD symbology is depicted in yellow.

C.- The HUD may be operated in the Full symbology or De-cluttered symbology modes.

D.- Both a and c are correct.

E.- All of the above are correct.

167.- The 787 HUD has two display modes, Full symbology, and De-cluttered symbology. In the de-cluttered mode, not all of the display items of the full symbology mode are available. Which of the following items is NOT true of the De-cluttered display mode of the 787 HUD?

A.- The airspeed and altitude tapes are not available.

B.- The Navigation Performance Scales (PFD & ANP) are not in view.

C.- The partial compass rose is not available.

168.- The Flight Director Guidance Cue:

A.- Indicates flight director roll steering commands.

B.- Indicates flight director pitch and roll steering commands.

C.- Indicates flight director pitch commands.

169.- Which of the following is NOT true regarding the Flight Path Vector Symbol?

A.- Displays whenever the flight director is ON.

B.- Displays current flight path angle and drift angle.

C.- Drift angle is represented by the perpendicular distance from the centerline of the pitch scale to the center of the flight path vector symbol.

170.- The NPS Deviation Pointer indicates the selected lateral or vertical path relative to the airplane position. Which of the following is/are true of the NPS deviation pointer display on the 787 HUD?

A.- It is displayed on the lateral and vertical deviation scales whenever the scale is displayed.

B.- It flashes for ten seconds if pointer migrates into bar area for five seconds or the ANP bars meet in the middle of the deviation scale.

C.- It is an unfilled symbol when parked at the deflection limit and filled when not parked at the deflection limit.

D.- Both a and b are correct.

E.- Both b and c are correct.

171.- At low altitudes, with LNAV engaged and LOC armed, the pointer flashes as the localizer is captured.

A.- True

B.- False

172.- Which of the following is/are true regarding the BARO minimums pointer on the 787 HUD?

A.- It flashes for 3 seconds, then steady when the airplane descends below baro minimums.

B.- When BARO minimums are displayed, the number is also represented as a triangular bug and line on the altitude scale.

C.- When RA minimums are displayed after BARO minimums are selected, the bug disappears on the altitude scale.

D.- Both a and b are correct.

- 173.- The HUD TO/GA Reference Line is displayed during takeoff roll if the flight director TO/GA mode is active, and groundspeed is greater than _____ knots.
- A.- 65
 - B.- 80
- 174.- The HUD Speed Error Tape displays the difference between the _____ airspeed and the _____ airspeed or _____ airspeed.
- A.- Indicated; true; calibrated.
 - B.- Indicated; selected; commanded.
 - C.- Indicated; equivalent; corrected.
- 175.- Pitch scale will compress if the horizon reference line or flight path vector symbol are parked at the limit of the display because of excessive pitch angle. Pitch Scale Chevrons overlay compressed pitch scales with tip at _____ directing pilot to apply pitch up or down as required.
- A.- +30 degrees; -20 degrees.
 - B.- +25 degrees; -15 degrees.
 - C.- +35 degrees; -25 degrees.
- 176.- The flight instruments and displays supply information to the flight crew on _____ flat panel liquid crystal display units. The units display the following information:
- A.- Five; PFD, ND, EICAS, AUX, MFD
 - B.- Four; PFD, ND, EICAS, MFD

177.- During normal operations the PFD/MFD selectors are set to NORM and:

A.- NDs are displayed on the two inboard units

B.- A normal-display ND is shown on the left MFD of the Captain inboard display unit and a full-display ND is shown on the First Officer inboard display unit. EICAS is displayed on the right MFD window of the Captain inboard display unit.

C.- EICAS is displayed on the upper center display unit and the display select panel-selected MFD information is displayed on the lower display unit, or the display is blank.

D.- Both a and c are correct.

178.- The EFIS control panels control display options, mode, and range for the respective PFDs and NDs. If an EFIS control panel fails:

A.- The displays can be controlled through the backup EFIS/DSP display on the SYS page. The backup EFIS capability is available at all times, but inhibits inputs from the respective EFIS control panel.

B.- The displays can be controlled through the related CDU. This CDU capability is available at all times, but inhibits inputs from the respective EFIS control panel.

179.- The display system automatically reconfigures to compensate for most faults. If certain faults are not corrected automatically:

A.- The instrument display source select panels provide manual switches for the pilots to use if certain faults are not corrected automatically. The instrument source select switches provide alternate information sources for the PFDs and NDs. If there is an undetected source failure, the non-normal (ALTN or CDU) position provides the capability for manual selection of PFD and ND sources.

B.- The Air Data/Attitude (AIR DATA/ATT) Source Selector is provided for the pilots to use if certain faults are not corrected automatically. The AIR DATA/ATT source selector controls the source of airspeed, altitude and attitude information for the associated PFD and HUD. They have no effect on the autoflight or navigation system.

C.- If there is an undetected source failure, the non-normal (ALTN) position provides the capability for manual selection of PFD and HUD sources.

D.- Both b and c are correct.

180.- The default 787 flight instrument display is:

A.- The inboard display selectors are set to MFD, the lower center display is the preferred MFD controlled by the display select panel and the outboard display units display PFDs and the inboard display units display NDs.

B.- The PFD/MFD DISPLAY selectors are set to NORM, the outboard display units display AUX data and PFDs, and the inboard display units display NDs and EICAS.

C.- The inboard display selectors are set to MFD, the lower center display is set to EICAS, and the outboard display units display PFDs. The PNF inboard display is the preferred MFD controlled by the display select panel.

181.- If both inboard DUs fail, the EICAS can not be displayed. To enable display of EICAS, the pilots must use the PFD/MFD selector to manually reconfigure the displays.

A.- True

B.- False

182.- Each EFIS control panel controls the ND on the same side. If an ND is displayed on both MFD windows of the lower display unit, the 2 normal-display NDs combine to form a single full-display ND. In this situation which EFIS control panel controls the full display ND?

A.- The first EFIS control panel to select the ND on the lower display unit.

B.- Either EFIS control panel, depending upon who is using the display unit.

183.- The EICAS transfer switches toggle the EICAS display between:

A.- The Captain inboard DU and the First Officer inboard DU and the lower DU.

B.- The Captain inboard DU and the First Officer inboard DU.

184.- The display cursor is controlled by the:

A.- CCD (Cursor Control Devices).

B.- CCD and EFIS control panels.

C.- CCD, EFIS control panels and MFK (Multifunction Keypads).

- 185.- Fuel can be transferred from main tank to main tank using the fuel balance system. Fuel from the higher quantity main tank is transferred through its defuel/jettison valve to the lower quantity main tank through its inboard refuel valve. Which of the following statements regarding the operation of the fuel balancing system is NOT correct?**
- A.- Transfer stops automatically when fuel is balanced.
 - B.- If the system is selected on and balance is not achieved it shuts down automatically.
 - C.- The system is commanded off automatically if the jettison system is activated.
 - D.- It can be operated on the ground with the engines running to transfer fuel.
- 186.- The fault light is illuminated (amber) if a system fault has occurred or the fuel balance system is inoperative.**
- A.- True
 - B.- False
- 187.- How many fuel crossfeed valves are there on the 787?**
- A.- Two
 - B.- One
- 188.- There is an expanded FUEL QTY display (left main, center, and right main tank quantities). Which of the following conditions will cause the expanded fuel indications to appear?**
- A.- The airplane is on the ground and both engines are shut down.
 - B.- The balance system is active.
 - C.- The balance system is selected on and the fuel is already balanced.
 - D.- Any of the above.

- 189.- Which of the following is true regarding fuel imbalance indications with the fuel imbalance pointer on the Boeing 787?**
- A.- A solid white fuel imbalance pointer is displayed if main tank fuel differs more than 1,000 lbs.
 - B.- A solid amber fuel imbalance pointer is displayed if the FUEL IMBALANCE message is displayed.
 - C.- Both a and b are correct.
- 190.- With the main fuel tank pumps selected ON, a scavenge system operates automatically to transfer remaining center tank fuel to the main tanks. The fuel transfer begins when either main tank fuel quantity is less than _____ and the center tank pumps are off.**
- A.- 4.545 kilograms.
 - B.- 5.227 kilograms.
 - C.- 13.636 kilograms.
 - D.- 16.000 kilograms.
- 191.- On the ground with AC power available, the left forward AC fuel pump operates automatically.**
- A.- True
 - B.- False
- 192.- The fuel jettison system allows jettison from all fuel tanks. At least _____ kilograms of fuel remains in each main tank after fuel jettison is complete.**
- A.- 4.545
 - B.- 3.500
 - C.- 3.900

- 193.- Two electric motor-driven pumps (EMPs) provide hydraulic power sources for the center hydraulic system. The C1 and C2 ELEC pump selectors control pump operation. The two center pumps alternate as a primary pump and demand pump. Under which of the following conditions do the center demand pumps operate?**
- A.- System low pressure
 - B.- From taxi thrust set to flaps retracted.
 - C.- Landing gear, flaps and slats up.
 - D.- Both b and c are correct.
- 194.- The center hydraulic system has isolation functionality in the event of a leak. The hydraulic isolation systems ensure the flight crew can lower the landing gear and that nose wheel steering is operational for landing, roll-out and taxi. Which of the following items does the isolation function use?**
- A.- Nose Gear Isolation Valve (NGIV) and Reserve Steering Isolation Valve (RSIV).
 - B.- Alternate and Reserve Brakes.
 - C.- Alternate Extend Isolation Valve (AEIV) and reservoir standpipe.
 - D.- Both a and c are correct.
 - E.- Both b and c are correct.
- 195.- The ram air turbine, when deployed, provides 5,000 psi hydraulic power to the primary flight controls connected to the center hydraulic system. The RAT deploys automatically under which of the following conditions?**
- A.- Both engines are failed or all three hydraulic system pressures are low.
 - B.- Loss of all electrical power to Captains and F/Os flight instruments.
 - C.- Loss of all four EMPs and faults in flight control system occur on approach or loss of all four EMPs occurs and an engine fails on takeoff or landing.
 - D.- All of the above are correct.
- 196.- The ram air turbine provides 5,000 psi hydraulic power to the secondary flight controls connected to the center hydraulic system.**
- A.- True
 - B.- False

- 197.- No flight crew normal or non-normal procedures require operation of the flight control surface lockout switches. These switches are for ground maintenance use only.**
- A.- True
 - B.- False
- 198.- The airplane has two main landing gear and a single nose gear. The nose gear is a conventional two-wheel steerable unit. Each main gear has six wheels in tandem pairs.**
- A.- True
 - B.- False
- 199.- If only one brace on a main landing gear is locked (either drag or side brace not locked) after the normal transit time, which of the following EICAS messages are displayed?.**
- A.- MAIN GEAR BRACE L or R is displayed for the affected gear.
 - B.- MAIN GEAR DRAG BRACE L, R or MAIN GEAR SIDE BRACE L, R is displayed for the affected gear.
- 200.- The rudder pedals can be used to turn the nosewheels up to 8 degrees in either direction.**
- A.- True
 - B.- False
- 201.- The brake system is powered by four electric brake power supply units. The brake pedals provide independent control of the left and right brakes. Four Electric Brake Actuators (EBAs) are provided on each main landing gear wheel brake to control the application of braking force to the carbon disc. The EBA's are controlled by an Electric Brake Actuator Controller (EBAC). How do the EBACs control the brake force of the wheels?**
- A.- There is one EBAC for each wheel. (8 total).
 - B.- There is one EBAC for each fore-aft wheel pair. (4 total)
 - C.- There is one EBAC for each landing gear side. (2 total).

- 202.- Touchdown and hydroplaning protection is provided using airplane inertial groundspeed. Locked wheel protection is provided using a comparison with other wheel speeds. Which of the following statements concerning antiskid protection is/are true?**
- A.- Antiskid protection is provided on an individual main gear wheel basis.
 - B.- Antiskid protection is provided on a main gear wheel pair basis.
- 203.- The parking brake electric brake actuators are clamped in position during parking brake application and require no active power to maintain the clamping force. The feature which monitors condition of the brakes after parking brake application and adjusts clamping force as needed during brake cooling is called:**
- A.- Adjusted cooling
 - B.- Clamp cooling force
 - C.- Park and adjust
- 204.- The rudder pedal steering disconnect switch is used during a flight controls freedom of motion check. Where is the switch located?**
- A.- On top of the rudder pedal adjust crank.
 - B.- Right side of the brake source indicator.
 - C.- At the top center of the nose wheel steering tiller.
- 205.- Time Critical Warnings are displayed on the PFD. Which of the following PFD warnings is/are in the 787?**
- A.- PULL UP/ENG FAIL.
 - B.- PULL UP/ENG FAIL/SPEEDBRAKE/WINDSHEAR
 - C.- PULL UP/ENG FAIL/WINDSHEAR.
- 206.- Which of the following alerts may be displayed on the Head-Up Display (HUD)?**
- A.- Autopilot Engaged Alert, Thrust Asymmetry Minimum Speed, Time Critical Warnings.
 - B.- Time Critical Warnings, Autopilot Engaged Alert, No Autoland Alert.
 - C.- Time Critical Warnings

207.- Selection of the “ABOVE” TCAS prompt:

- A.- Displays TCAS traffic vertically from 2,700 feet below to 7,000 feet above current flight altitude.
- B.- Displays TCAS traffic vertically from 2,700 feet below to 2,700 feet above current flight altitude.
- C.- Displays TCAS traffic vertically from 2,700 feet below to 9,900 feet above current flight altitude.

208.- TCAS traffic is displayed when TFC is selected and the respective ND is:

- A.- In MAP mode.
- B.- In MAP or MAP CTR mode.
- C.- In MAP, MAP CTR, VOR or APP mode.

209.- Pushing the Ground Proximity Gear Override (GEAR OVRD):

- A.- Inhibits CONFIG GEAR alert and displays the EICAS message GPWS GEAR OVRD.
- B.- Inhibits TOO LOW GEAR alert, CONFIG GEAR warning message, EICAS GPWS GEAR OVRD displayed, and it resets automatically after landing 10 minutes after the cabin door is opened.
- C.- Inhibits TOO LOW GEAR alert and CONFIG GEAR warning message.

210.- Pushing the Terrain (TERR) Map Switch:

- A.- Displays terrain data in MAP or MAP CTR modes.
- B.- Deselects weather radar display regardless of switch position.
- C.- Displays terrain data in MAP, MAP CTR, VOR and APP modes.
- D.- Both a & b are correct.
- E.- Both b & c are correct.

211.- When the Terrain (TERR) Map Switch is pushed, terrain is displayed on both the Navigation Display and the Mini-Map.

- A.- True
- B.- False

- 212.- EICAS consolidates engine and airplane system indications and is the primary means of displaying system indications and alerts to the flight crew. EICAS information may be displayed on:**
- A.- Upper Center Displays.
 - B.- Lower Display.
 - C.- Any MFD as desired by the aircrew.
- 213.- TAMS is displayed on the speed tape to provide pilots with situational awareness of the minimum control speed for operation with a large thrust asymmetry. This speed will always be at least 10 knots above minimum control speed during takeoff or go-around. When airspeed decreases to TAMS:**
- A.- The AIRSPEED, AIRSPEED aural sounds & Master WARNING light illuminates.
 - B.- The Master CAUTION light illuminates and the AIRSPEED, AIRSPEED aural sounds.
 - C.- The AIRSPEED, AIRSPEED aural sounds & both the master WARNING and CAUTION lights illuminate.
- 214.- TCAS alerts the crew to possible conflicting traffic. TCAS messages and TCAS traffic symbols can be displayed:**
- A.- On the ND and mini-map.
 - B.- On the ND in map and plan modes.
 - C.- On the ND in map, VOR centered and APP centered modes.
- 215.- An RA is a prediction that another airplane will enter TCAS conflict airspace within approximately ___ to ___ seconds. A TA is a prediction that another airplane will enter the conflict airspace in ___ to ___ seconds.**
- A.- 20-30; 25-45.
 - B.- 12-25; 30-45.
 - C.- 15-35; 20-48.
- 216.- New TCAS TRAFFIC TA or RA alerts can be displayed when:**
- A.- When one or both NDs are in MAP or MAP CTR modes.
 - B.- When one or both NDs are in MAP, MAP CTR, VOR or APP modes.

C.- When one or both NDs are in MAP or APP modes.

217.- The MFKs include the rotary Cursor Control Selector and the Cursor Select Switch. To select a highlighted area in a display, the pilot must:

A.- Rotate the Cursor Control Selector.

B.- Push the Cursor Select Switch.

218.- Which of the following is/are true regarding the Display System Information Sources?

A.- The IRS (Inertial Reference System) is the primary source for attitude and inertial navigation position information. The IRU is the primary source for independent inertial navigation position information.

B.- The ADIRS (Air Data Inertial Reference System) is the primary source for primary air data and inertial reference information. The ADIRU is the primary source for speed, attitude, and inertial navigation position information.

C.- The AHRUs (Attitude Heading Reference Units) are the primary source for attitude and heading information. The ADRS (Air Data Reference System) provides primary, secondary, and standby air data.

D.- Both a and c are correct.

E.- Both b and c are correct.

219.- The head-up display (HUD) system projects flight data symbology onto a transparent glass “combiner” screen in the pilot’s forward field of vision. This allows the pilot to see the data while looking through the forward windscreen. Which of the following is NOT true of the 787 HUD system?

A.- The HUD projector is monochromatic (green), so all information displayed on the HUD combiner is green.

B.- The HUD and PFD receive flight data from the same sources, thus HUD indications will match (repeat) PFD indications, though data format and symbology may differ.

C.- The HUD and PFD share the same symbology modes and differ only in some unique symbology and in the color of the display.

220.- The HUD is capable of displaying two alternate symbology modes, full symbology and decluttered. Which of the following is/are descriptive of the HUD symbology modes?

A.- Symbology control switches on each control wheel allow the pilot to alternate between the two display modes.

B.- The full symbology shares many common elements with the PFD, including speed and altitude tapes, lateral and vertical navigation performance scales, bank angle indicator and flight mode annunciations.

C.- The decluttered mode displays airspeed and altitude in digital values.

D.- Both a and b are correct.

E.- All of the above are correct.

221.- The HUD UA symbology displays when the airplane pitch angle exceeds _____ or _____, or if roll exceeds _____ in either direction.

A.- +30 degrees; -20 degrees; 35 degrees.

B.- +40 degrees; -25 degrees; 45 degrees.

C.- +35 degrees; -20 degrees; 55 degrees.

222.- Runway edge lines is a projection of an 8,000 foot long, 200 foot wide runway, displaying the calculated position of the actual runway. The symbol displays in the _____ mode only. The symbol is enabled at a radio altimeter altitude of 300 feet and removed at 60 feet.

A.- Full symbology mode.

B.- Decluttered symbology mode.

223.- The guidance (small circle) cue is associated with the flight path vector symbol. This guidance cue represents flight director guidance, and is displayed when the flight directors are turned ON. To track the guidance cue, position the _____

A.- Circular body of the flight path vector symbol within the guidance cue.

B.- Flight path vector symbol's "gull wing" wing root in the center of the guidance cue.

C.- Circular body of the flight path vector symbol around the guidance cue.

- 224.- The airplane's angle-of-attack (AOA) limit is depicted on the HUD by the angle-of-attack limit symbol. The AOA limit symbol is displayed during:**
- A.- Flight with the flaps not up.
 - B.- When angle of attack is within five degrees of stick shaker, or the stick shaker is active.
 - C.- Windshear alerting with (solid) guidance cue displayed.
 - D.- Both a and b are correct.
 - E.- Both b and c are correct.
- 225.- The AOA limit symbol is similar to the PFDs pitch limit indicator (PLI). However, on the PDF, the PLI is displayed relative to the airplane reference symbol, not to the flight path vector.**
- A.- True
 - B.- False
- 226.- The speed error tape is positioned on the left wing of the flight path vector symbol, adjacent to the flight path acceleration symbol. The speed error tape shows the difference between the indicated airspeed and the selected airspeed on the mode control panel. In order to prevent an incorrect interpretation of the speed error tape, the symbol is not displayed during:**
- A.- Takeoff, until the first flap retraction.
 - B.- Cruise
 - C.- Approach, until the first flap extension.
- 227.- The mini-maps present a tactical display map with a fixed range of _____ nautical miles. They provide immediate target and threat information and are placed below the PFDs directly in front of each pilot. The mini-maps display the flight plan with all of its associate information.**
- A.- 40 miles
 - B.- 20 miles
 - C.- 10 miles

228.- Which of the following is NOT true about IAN indications on the PFD?

A.- FMC glidepath and FAC deviation, approach identifier, distance, and course are provided.

B.- The approach reference information appears above and to the left of the attitude display. The IAN deviation source annunciation is below the approach data.

C.- IAN glide path and FAC deviation indications and alerts are displayed like ILS.

D.- IAN approach deviations are available with QFE selected in the FMC.

229.- The NDs provide a mode-selectable color flight progress display. The modes are:

A.- Map and Plan.

B.- Map, VOR, APP, and Plan.

C.- Expanded and Center.

230.- Which of the following is true regarding track information on the navigation display?

A.- Track is supplied by the FMC during normal operation and by the IRS when in alternate navigation.

B.- Track is supplied by the FMC during normal operation and by the CDU when in alternate navigation.

C.- Track is supplied by the FMC during normal operation and is not displayed when in alternate navigation.

231.- The VSD presents a profile view of the airplane and its environment. Information shown within the _____ (enroute corridor) on the ND is shown in profile on the VSD.

A.- Green dashed lines.

B.- Magenta dashed lines.

C.- Cyan dashed lines.

- 232.- The VSD depicts terrain and waypoint information that is within the enroute corridor on the ND. The VSD range is a function of the ND range and is depicted on the horizontal reference scale. The normal-display VSD has the same range as the ND except when the ND range is less than 5 NM. The full-display VSD has twice the range of the ND – from 10 NM to 2560 NM.**
- A.- True
 - B.- False
- 233.- The dashed cyan lines depicting the enroute corridor indicate the area of the map that is shown on the VSD. Which of the following correctly describes a feature of the VSD corridor display on the ND?**
- A.- The enroute corridor is displayed full time when VSD is selected from the drop down menu.
 - B.- During turns, the corridor edge leading the turn opens in the direction of the turn.
 - C.- Both a and b are correct.
- 234.- An EICAS message is provided to alert the crew when a critical checklist is not completed before the next phase of flight begins. Alert logic is provided for _____ normal checklists.**
- A.- Four
 - B.- Eight
 - C.- All
- 235.- The EICAS advisory message CHKL NON-NORMAL is displayed when there is a non-normal checklist in the queue with no associated EICAS message displayed, and ECL (electronic checklist) is not displayed. A rectangular checklist icon is displayed with the CHKL NON-NORMAL message as a reminder to the crew to select ECL, even though there is no non-normal checklist associated with this EICAS message.**
- A.- True
 - B.- False

- 236.- The dual database feature provides the flight crew the capability of activating either of two different ECL databases, each having a different database part number and revision identification. Which of the following is NOT true of the ECL database operation?**
- A.- Selection of a different ECL database is accomplished on the RESET menu using the CCD.
 - B.- The database selection keys are inhibited on the ground after engine start.
 - C.- The flight crew can select either ECL database as often as desired while on the ground.
 - D.- Changing the active ECL database results in RESET ALL action.
- 237.- The electronic flight bag is an operating system with a suite of applications designed to assist the flight crew with routine tasks, enhance security, and reduce the reliance on paper documents. The flight crew interact with the EFB using display units located in the left and right side panels. Which of the following is/are true of the operation of the EFB?**
- A.- The display units operate independently of each other, but can display information from the off-side unit.
 - B.- The EFB can exchange data with the FMC.
 - C.- The EFB can send information directly to the flight deck printer or an EFB storage location.
 - D.- All of the above are correct.
- 238.- An interactive graphical CDU can be displayed on any of the MFDs. The display is accessed by pushing the CDU switch on the associated display select panel.**
- A.- True
 - B.- False
- 239.- The CDU color “shaded gray on the CDU indicates to the pilot:**
- A.- Modifications.
 - B.- Input field.
 - C.- Background for modified text.

- 240.- Interaction with the CDU is accomplished by using the Cursor Control Device (CCD) or the Cursor Control Selector (CCS). An enter or line key selection may be performed by:**
- A.- Pushing the ENTER key on the onside multifunction keypad.
 - B.- Pushing the Cursor Select Switch on the onside multifunction keypad.
 - C.- pushing the Cursor Select Switch on the onside CCD.
 - D.- Both a and b
 - E.- All of the above
- 241.- The transponder, weather radar and alternate navigation functions may be accessed from any of the three Tuning and Control Panels (TCPs) located on the aft aisle stand. The transponder additionally uses the Alerting and Transponder Control Panel (ATP). Which of the following is NOT true about transponder function?**
- A.- Power to the left and right transponders is controlled from the TCP SYS POWER screen.
 - B.- The left TCP can control both left and right side transponders.
 - C.- The Alerting and Transponder Control Panel serves as the primary means for setting transponder modes and for sending an IDENT to ATC.
- 242.- If the Alerting and Transponder Control Panel fails, the EICAS advisory message TRANSPONDER PANEL is displayed and the transponder and TCAS modes must be set using the Tuning and Control Panel. Pushing the ALERT/Transponder Control (XPDR CTL) prompt:**
- A.- Places the transponder in the standby mode.
 - B.- Disables transponder altitude reporting.
 - C.- Toggles transponder control between ATP and the TCP.
- 243.- Which of the following is true of the weather radar display when the WX+T (turbulence) prompt is selected on Weather Radar on the Tuning and Control Panel (TCP)?**
- A.- Displays weather radar returns and turbulence. The turbulence display is available with display ranges of 40 miles or less.
 - B.- Displays weather returns and turbulence within precipitation at calibrated gain level. Turbulence within 40 nm is displayed at all display ranges

244.- Which of the following statements are true descriptions of the 787 global positioning system (GPS)?

A.- The left and right GPS receivers are independent and supply very accurate position data to the FMC. All GPS tuning is automatic. If the ADIRU becomes inoperative during flight, the EICAS displays the message NAV ADIRU INERTIAL AND the FMC uses only GPS data to navigate.

B.- The left and right GPS receivers are independent and supply very accurate position data to the IRS. All GPS tuning is automatic. If the IRS becomes inoperative during flight, the FMC automatically uses GPS data to navigate. No EICAS message is displayed.

245.- On initial power-up, the IRUs enter the align mode. Alignment time is approximately 7 to 10 minutes at mid latitudes and up to 17 minutes at high latitudes. The airplane should not move until alignment is complete. Which of these statements are true of the 787 IRU alignment process?

A.- When the GPS system is operating normally there is no requirement for the flight crew to enter present position on the CDU POS INIT page. The IRU has the additional capability to complete an alignment while in flight. If a new airplane present position entry fails the internal check twice, the EICAS advisory message FMC MESSAGE is displayed along with the CDU help window message ALIGNMENT REINITIATED. The system automatically starts a new alignment cycle.

B.- Airplane latitude/longitude position must be entered on the CDU POS INIT page. If a new airplane present position entry fails the internal check twice, the scratchpad message ALIGNMENT REINITIATED displays. The system automatically starts a new alignment cycle.

246.- _____ ILS receiver(s) can be manually tuned from the NAV RADIO page at anytime unless ILS approach tuning inhibit is active.

A.- Two

B.- Three

C.- One

247.- Two ATC transponders and the traffic alert and collision avoidance system (TCAS) are controlled:

A.- From the transponder panel.

B.- From the ATP and the TCP.

- 248.- The ATP controls the following Transponder/TCAS modes:**
A.- STBY, ALT RPTG OFF, XPDR, TA ONLY and TA/RA.
B.- Mode A numeric code, ATC Ident function, TCAS envelope, Altitude Mode and transponder select.
- 249.- There are _____ independent FMCs. At power up, one FMC is designated to accomplish the flight management tasks.**
A.- Two
B.- Three
C.- Four
- 250.- The flight crew controls the FMC using emulated CDU displays. The CDUs may be displayed on any of the MFDs as selected by the aircrew.**
A.- True
B.- False
- 251.- On the ground the FMC determines present position from these navigation systems:**
A.- ADIRS, GPS, and navigation radios.
B.- IRS and/or GPS.
C.- IRS, GPS, and navigation radios.
- 252.- The FMC position is always calculated using hybrid GPS-inertial data.**
A.- True
B.- False
- 253.- Radio updating is not used unless GPS updating is not available or has been inhibited.**
A.- True
B.- False

- 254.- The route of flight displays on the Navigation Display (ND):**
- A.- In the map, map center and plan modes.
 - B.- In the map, map center, mini-map and plan modes.
- 255.- With VNAV active, pushing the IAS MACH selector enables speed intervention. Speed intervention allows the flight crew to change airplane speed with the IAS/MACH selector. In a VNAV descent after the T/D:**
- A.- The pitch mode does not change with speed intervention and remains in VNAV PTH throughout the descent. Pitch controls speed in VNAV SPD mode, and thrust controls speed in VNAV PTH mode.
 - B.- VNAV PTH changes to VNAV SPD during speed intervention. In all other phases the pitch mode does not change with speed intervention.
 - C.- The pitch mode does not change with speed intervention and remains in VNAV PTH throughout the descent. Thrust controls speed in VNAV SPD and pitch controls speed in VNAV PTH.
- 256.- The top of descent (T/D) is the point where the cruise phase changes to the descent phase. It displays on the ND as a green circle with the label T/D. The descent path starts at the T/D and includes waypoint altitude constraints. The path to the first constraint is based on:**
- A.- Idle thrust, speedbrakes retracted, FMC cruise wind, wind entries on the DESCENT FORECAST page, the predicted use of anti-ice, and applicable target speed.
 - B.- Idle thrust, speedbrakes extended, FMC cruise wind, wind entries on the DESCENT FORECAST page, the predicted use of anti-ice, and applicable target speed.
 - C.- Off-idle thrust, speedbrakes retracted, FMC cruise wind, applicable target speed, wind entries on the DESCENT FORECAST page, and the predicted use of anti-ice.

257.- A missed approach is accomplished by selection of either TOGA switch. Among the features available:

A.- The highest altitude in the missed approach procedure becomes the new cruise altitude.

B.- The new cruise altitude becomes the greater of the MCP altitude or the highest altitude in the missed approach procedure.

C.- AFDS guidance to fly the published missed approach procedure to the new cruise altitude is active when VNAV (and LNAV) are selected.

D.- a and b are correct.

E.- b y c are correct.

258.- In the event of a single FMC failure:

A.- The scratchpad message SINGLE FMC L or SINGLE FMC R displays after loss of a single FMC. The EICAS advisory message FMC MESSAGE displays. Crew action is not necessary to change to a single FMC operation. LNAV and VNAV, if active, remain active and all flight plan and performance data is retained.

B.- At powerup, the three FMCs are designated as master, spare and backup. All Flight Management computing tasks are accomplished by the master (active) FMC. The spare (standby) FMC automatically becomes active and assumes all FMC functionality in the event the master FMC fails. The backup FMC then assumes the role of the spare FMC. This transition occurs automatically and is not apparent to the crew. No crew action is necessary. LNAV and VNAV, if active, remain active and all flight plan and performance data is retained.

259.- If two FMCs fail in flight:

A.- The third FMC automatically takes over in a single FMC configuration. The EICAS advisory message SINGLE FMC is displayed. All data is retained, NDs continue to operate, but LNAV and VNAV is disengaged. The flight crew needs to reactivate and execute the flight plan, and reselect LNAV and VNAV.

B.- If both FMCs fail, LNAV and VNAV fail. The EICAS advisory message FMC displays. The CDUs supply route data to the NDs, and one of the CDUs supplies LNAV guidance to the autopilot. LNAV can be reselected on the mode control panel.

C.- In the event all FMCs become inoperative, the EICAS advisory message FMC is displayed. There is a loss of PFD mini-map displays, ND map displays, loss of the CDU pages on the MFD and no LNAV or VNAV operation or guidance. Left side ILS or GLS deviations are then displayed on the ISFD.

260.- Most Air Traffic Control datalink functions are accomplished on the MFD. Which of the following is true about ATC route modification clearances received via datalink?

A.- Uplink messages which contain route modifications are loaded into the FMC using the LOAD FMC function on the MFD ATC page.

B.- When a clearance is of a type that can be loaded into the FMC, LOAD FMC buttons appear on both the COMM display and the CDU help window. The crew may accomplish the FMC loading or accept/reject actions in either order.

C.- None of the above.

261.- The position initialization page allows entry of airplane present position. The set inertial position (SET INERTIAL POS) entry is:

A.- Optional because the IRS has continuous access to the GPS position. Entry may be accomplished by selecting the most accurate latitude/longitude from LAST POS, REF AIRPORT, GATE, GPS POS, or make a manual entry.

B.- Required to initialize the ADIRU. Select the most accurate latitude/longitude from LAST POS, REF AIRPORT, GATE, GPS POS or make a manual entry to initialize the ADIRU.

C.- Optional if the Reference Airport (REF AIRPORT) has been entered.

262.- The source used by the Master FMC for position data displays next to the FMC line title. The sources used for calculating the FMC position include:

A.- GPS, INERTIAL, RADIO.

B.- GPS, GPS-AHRU, GPS-IRU, RADIO, INERTIAL.

C.- GPS, GPS-AHRU, GPS-IRU, INERTIAL, LOC, LOC-RADIO, RADIO

263.- Position reference page 4 displays the present position of individual navigation sensors in bearing/distance format from the Master FMC position. This page provides the capability to remove specific sensors from the FMC navigation solution.

A.- True

B.- False; on this page the left and right GPS receiver calculated positions and the left and right FMC calculations may be observed. This page provides the capability for the flight crews to enable or disable GPS

positions.

- 264.- When available, HUD TAKEOFF options are shown on the DEPARTURES page. Selecting a HUD TAKEOFF runway provides highly accurate HUD guidance during low visibility takeoffs. Pushing the HUD TAKEOFF prompt:**
- A.- Selects runway to be used in low visibility takeoff, all other runways are removed from the display. The FMC tunes the selected navaid to provide low visibility takeoff guidance through the HUD.
 - B.- SIDs associated with the selected runway remain, all other SIDs and TRANS are removed from the display. A subsequent change of a runway deletes departures previously selected.
 - C.- Both a and b are correct.
 - D.- None of the above
- 265.- Which of the following statements is NOT true about GLS Landing System in the 787?**
- A.- GLS channel entries are made in the range of 20,000-99,999.
 - B.- GLS receivers operate in FMC autotune only.
 - C.- Since ILS frequency and GLS channel are entered on the same line it is not possible to have both the ILS and GLS tuned simultaneously.
- 266.- The calculated gross weight is displayed after Zero Fuel Weight is entered. Manual entry is not allowed.**
- A.- True
 - B.- False
- 267.- The step size window displays the climb altitude increment used for planning the optimum climb profile. The default value is:**
- A.- 1,000 feet
 - B.- RVSM
 - C.- ICAO

- 268.- The takeoff reference page allows the flight crew to manage takeoff performance. Takeoff flap setting and V speeds are entered and verified. Thrust limits, takeoff position, and takeoff gross weight can be verified or changed. Preflight completion status is annunciated until complete. Takeoff reference page entries finish the normal preflight. When preflight entries are complete:**
- A.- The line 6 header displays FMC PREFLIGHT COMPLETE in white letters on a green background. The THRUST LIM prompt displays at LSK 6R. The line 6 header FMC PREFLIGHT COMPLETE is also displayed on the PERF INIT and THRUST LIM pages.
 - B.- A dashed line displays below the takeoff reference page data. The THRUST LIM prompt displays below the dashed line.
 - C.- The line six header displays FMC PREFLIGHT COMPLETE in green letters on a white background.
- 269.- Select route offsets on the RTE page 1, then enter the necessary offset. When executed:**
- A.- The CDU OFST light illuminates. Valid entries are L (left) or R (right) XX (XX is any number from 0 to 99 nm).
 - B.- After execution, the entered offset is displayed on the ND as a dashed magenta line. Valid entries are L (left) or R (right) XX (XX is any number from 0 to 99 nm).
 - C.- Both a and b are correct.
- 270.- The APU fuel consumed is displayed on Progress Page 2.**
- A.- True
 - B.- False
- 271.- Which of the following is a true description of the Crosstrack Error (XTK ERROR) depiction on Progress Page 4?**
- A.- Displays present crosstrack error from the desired LNAV course. L or R indicates left or right of course. Blank if error is greater than 99.9 NM.
 - B.- Displays present crosstrack error from the desired LNAV course. L or R indicates left or right of course. Errors in excess of 99.99 nm display as 99.99 nm.

- 272.- In the event of an unrecoverable loss of all FMC displays, a backup navigation capability is available through:**
- A.- The Control Display Units.
 - B.- The Tuning and Control Panels.
 - C.- The SAARU.
- 273.- In alternate navigation all new waypoints are entered as latitude and longitude. The number of waypoints that can be entered for navigation is:**
- A.- Five
 - B.- Three
 - C.- One
- 274.- The Alternate Navigation Radio Page:**
- A.- Is where navigation radios are tuned and related parameters display.
 - B.- Provides a backup means of tuning the ILS frequency and course or GLS channel into the left integrated navigation receiver (INR).
 - C.- Both a and b are correct.
- 275.- Which of the following is true of the 787 FMC entry-error messages?**
- A.- Display in the CDU help window. Push the CLR MSG key or for some messages enter a corrected entry on the CDU to clear the message.
 - B.- Display on the CDU scratchpad and illuminate the CDU message light (MSG). Push the CLEAR key to remove the message before any data can be entered into the scratchpad.
 - C.- Display on the CDU scratchpad and illuminate the CDU message light (MSG).
- 276.- Select ON, selects the main battery for energizing the “Towing Power” mode. Applicable towing battery charge light illuminates.**
- A.- True
 - B.- False

- 277.- The engine starter/generators function as electrically powered starter motors for engine start, and as engine driven generators once the engines are running.**
- A.- Each engine has two 235 Vac variable frequency starter/generators.
 - B.- They are directly connected to the engine gearboxes, producing variable frequency power proportional to engine rotor speed.
 - C.- Both are correct.
 - D.- None are correct
- 278.- The 115 Vac external power system consists of both a forward and aft system, with their corresponding receptacles, controls, and indications.**
- A.- The forward system provides the power for general ground operations.
 - B.- The aft external power system can assist the forward system when starting the left engine first.
 - C.- Both are correct.
 - D.- None are correct.
- 279.- Which of the following is true regarding the function of the display select panel?**
- A.- The display select panels (one for each pilot) on the glareshield provide control of the MFDs for the on-side inboard DU. Each DU has a left and right window. The currently selected MFD window (left or right) is indicated by the illuminated annunciator light above the corresponding display switch (L or R).
 - B.- The display select panel controls the MFD format on the left and right inboard display units and the lower center display unit. The selected display is indicated by the illuminated annunciator light on the display select panel (L INBD, R INBD, LWR CTR).

280.- When less than all engines/generators are operating, there may not be sufficient electrical power to operate all fuel pumps. Which statement or statements are correct regarding fuel pump operation when there is not sufficient power available to operate all of the pumps?

A.- The switch PRESS light on the non powered side is illuminated and the pump pressure EICAS message is illuminated.

B.- The fuel system automatically determines the best pumps to operate depending on how much electrical power is available. Certain fuel pumps may be load shed

C.- Indications that a fuel pump has load shed are that the pump switch PRESS light is illuminated and the pump is labeled LOAD SHED on the fuel synoptic.

D.- Both b and c are correct.

281.- Map Centering Keys are only available in the MAP mode:

A.- True

B.- False

282.- In the "Towing Power" mode, the radio communication systems are energized by the main battery.

A.- True

B.- False

283.- On the ground, the speedbrake lever moves to UP and all of the spoiler panels extend if _____ reverse thrust _____ raised to the reverse idle detent.

A.- Either; lever; is

B.- Both; levers; are

284.- Dimensions of the 787-8: Length _____; Wing Span _____; Turning Radius _____

A.- 56,7; 60,1; 42,2 meters

B.- 56,7; 60,1; 60,3 meters

C.- 60,0; 56,7; 42,2 meters

D.- 60,1; 56,7; 56,7 meters

- 285.- The left and right hydraulic systems each have a demand pump. The demand pumps provide supplementary hydraulic power for periods of high system demand. In the AUTO position, both the L and R demand pumps operate under which of the following conditions? (Figure 6)**
- A.- System low pressure.
 - B.- On the ground for the first five minutes after the second engine is started.
 - C.- From takeoff thrust set to flaps retracted.
 - D.- Both a and b are correct.
 - E.- Both a and c are correct.
- 286.- There are three tick marks on the nose wheel steering tiller assembly. What do they identify? (Figure 7).**
- A.- Left, right, and straight ahead.
 - B.- Neutral, maximum left, and maximum right displacements.
 - C.- Both a and b are correct.
- 287.- After the APU switch has been rotated to off and the APU is in its _____ minute cool down period, can the switch be positioned back to on? _____**
- A.- 2; yes
 - B.- 3; no
 - C.- 2; no
 - D.- 3; yes
- 288.- Altitude alerting is provided when approaching or departing the altitude selected in the MCP altitude window. On approaching the selected altitude, the highlighted white box is no longer displayed when within _____ feet of the selected altitude. On departing the selected altitude, the EICAS ALTITUDE ALERT appears when passing _____ feet.**
- A.- 200 feet; 200 feet.
 - B.- 300 feet; 300 feet.
 - C.- 250 feet; 250 feet.

289.- Which of the following statements accurately describe elements of the PFD altitude indications?

A.- The altitude indications incorporate a trend vector that indicates expected altitude ten seconds ahead in time based on the current vertical speed.

B.- The selected altitude displays the altitude set in the MCP altitude window. The selected altitude box is highlighted in white between 900 feet and 300 feet prior to reaching the selected altitude.

C.- The selected altitude displays the altitude set in the MCP altitude window. The selected altitude box is highlighted in white between 900 feet and 200 feet prior to reaching the selected altitude.

D.- Both a and c are correct.

290.- The maximum takeoff and landing altitude of the 787 is?

A.- 8,000 feet pressure altitude.

B.- 8,800 feet pressure altitude.

C.- 9,400 feet pressure altitude.

D.- 14,000 feet pressure altitude.

291.- Wing Anti-Ice System The electric wing anti-ice system powers thermal anti-icing mats on four midwing leading edge slats on each wing. There are three separate mats on each slat.

A.- True

B.- False

292.- Cabin Temperature (CABIN TEMP) Control Provides automatic passenger cabin temperature control. Turning the control toward C or W sets the passenger cabin master reference temperature between 18° C and 30° C.

A.- True

B.- False

293.- The air conditioning system supplies conditioned outside air and recirculated cabin air at a controlled temperature throughout the airplane.

A.- True

B.- False

294.- Pack control, zone temperature control, cabin air recirculation, fault detection, and overheat protection are all automatic.

A.- Backup system control modes operate automatically in the event of system failures.

B.- The airplane is divided into seven temperature zones: the flight deck and six passenger cabin zones.

C.- Answer a) is correct

D.- Answer a) and b) are correct.

295.- Anti Ice Automatic ice detection is inhibited on the ground below _____ knots.

A.- 80 knots

B.- 75 knots

C.- 70 knots

D.- 60 knots

296.- The ice detection system uses a combination of temperature sources to determine total air temperature for engine anti-ice, and to command engine anti-ice on and off. This reference temperature may not be the same as the displayed TAT.

A.- True

B.- False

297.- Wing Anti-Ice System The electric wing anti-ice system powers thermal anti-icing mats on four midwing leading edge slats on each wing. There are three separate mats on each slat.

A.- True

B.- False

298.- Automatic wing anti-ice operation is available in flight and on the ground above _____ knots airspeed.

- A.- 70 knots
- B.- 75 knots
- C.- 80 knots
- D.- V1 - 6 knots

299.- The VSD can display a FMC Approach Glidepath Angle Line for approaches that do not have a designated approach angle. This display:

- A.- Has a dashed line that extends 10 nautical miles for situational awareness. It is anchored to the missed approach point, not the runway.
- B.- Has a dashed line that extends 10 nautical miles for situational awareness. It is anchored to the runway threshold.
- C.- Is for reference only as the line may intersect terrain.

300.- Pack Ground Operation

- A.- Both air conditioning packs are normally selected to AUTO for ground operations.
- B.- Each pack uses a ram fan to draw air through the ram air system for ground operation cooling when sufficient main A/C Bus power is available.
- C.- Normally, to maximize system efficiency, only one CAC on each side runs when using the APU as the power source.
- D.- During cold weather operations both CACs are commanded on.
- E.- All the above are correct

301.- Engine and Wing Anti-Ice affects on maneuver margin With flaps down, engine or wing anti-ice use modifies stick shaker logic, increasing the stick shaker speed and minimum maneuvering speed.

- A.- True
- B.- False

- 302.- In flight, flight crew cycling (pulling and resetting) of circuit breakers to clear a non-normal condition is not recommended unless directed by maintenance or a non-normal checklist.**
- A.- True
 - B.- False
- 303.- When the landing weather minima are predicated on the autoland operations the following limits apply: Headwind: _____knots; Tailwind: _____knots; Crosswind: _____knots.**
- A.- 25, 10, 25.
 - B.- 25, 15, 25.
 - C.- 25, 10, 20.
- 304.- Which conditions listed below indicate an unlocked flight deck door?**
- A.- The access light is illuminated (red).
 - B.- The access light is illuminated (green).
 - C.- The FD Door Power switch is off and the red LED is illuminated.
 - D.- Both b and c are correct.
- 305.- Which of the following statements concerning the overhead flight crew rest compartment is/are NOT correct?**
- A.- The overhead flight crew rest is located in the forward part of the airplane in the overhead area between door 1L and 1R.
 - B.- Any crewmember with proper ID can utilize the crew rest.
 - C.- The OFCR seat may be occupied during taxi, takeoff, or landing operations.
 - D.- The primary evacuation route is down the entrance stairway through the entrance enclosure, if blocked, evacuation is possible through the emergency hatch located at the bunk on the right side.

- 306.- During ground starts, the autostart system monitors engine parameters and aborts the start for any of the following:**
- A.- No N1 rotation (locked rotor).
 - B.- Loss of both starters.
 - C.- Insufficient air pressure for starter rotation.
 - D.- Both a and b are correct.
 - E.- Both a and c are correct.
- 307.- On the Arrivals Page, the glideslope prompt displays whenever a localizer based approach (ILS, IGS, LOC, B/CRS, LDA, SDF) is in the currently displayed, selected or active flight plan. Which of the following is true about the purpose and operation of this prompt:**
- A.- Toggles glideslope ON and OFF.
 - B.- Defaults to ON for ILS or IGS approaches and OFF for LOC, B/CRS, LDA or SDF approaches.
 - C.- Both a & b are correct.
- 308.- Which of the following is/are true regarding the flight deck overhead door?**
- A.- The door can be opened only on the ground with the airplane depressurized.
 - B.- The door opens outward.
 - C.- Pull to remove vent cover Panel. TO OPEN: Pull vent handle down until vent is in open position. Rotate the handle in the direction of the arrows.
 - D.- Both a and b are correct.
 - E.- Both a and c are correct.
- 309.- Alternate Ventilation (VENTILATION) Switch NORM – environmental control system is configured for normal operation ALTN illuminated amber) - alternate ventilation valve is in the open position. When valve is open, alternate ventilation flow occurs when airplane is pressurized normally.**
- A.- True
 - B.- False

310.- The Engine Anti-ice System uses bleed air to provide engine core and cowl inlet ice protection. Engine anti-ice can be operated in flight or on the ground.

A.- True

B.- False

311.- Pack Inlet Anti-Ice System provides ice protection for both ram air inlets for the cabin air compressors. An electric heater on the leading edge of each inlet prevents ice formation and reduces ice formation in the duct during icing conditions.

A.- True

B.- False