



EAST AFRICAN SCHOOL OF AVIATION

FINAL EXAMINATION

SUBJECT: AIRCRAFT LOADING PRINCIPLE

Duration: 2 HRS

DATE

TIME: 0800-1000hrs

INSTRUCTIONS TO ALL CANDIDATES

1. Answer all questions.

- 1) To improve the handling of greater volumes of cargo, it is necessary to group items into _____.
 - A) Smaller units
 - B) Large units
 - C) Medium units
 - D) Both A and B
- 2) An aircraft ULD _____ directly with aircraft loading and restraint system.
 - A) Fits
 - B) Interfaces
 - C) Gets loaded
 - D) Both B and C
- 3) The three main types of ULDs used in the aviation industry include pallets, non-structural igloos and accessories as well as _____.
 - A) Tiedowns
 - B) Straps
 - C) Chains
 - D) Containers
- 4) _____ are platforms with flat undersurfaces, built with standard aircraft requirements, on which goods are assembled and secured by nets or igloos.
 - A) Igloos
 - B) Pallets
 - C) Containers
 - D) Both A and B
- 5) Pallets are usually not more than _____ thick and have seat tracks around the edges to secure the net.
 - A) 25cm
 - B) 25in
 - C) 25mm
 - D) 25m
- 6) A _____ is an open front bottomless rigid shell, made of fiberglass, metal or other suitable material.
 - A) Pallet
 - B) Non-structural igloo
 - C) Container
 - D) Both B and C
- 7) A _____ is used in combination with an aircraft certified pallet and net assembly.
 - A) Pallet
 - B) Non-structural igloo
 - C) Container
 - D) Both B and C
- 8) The three types of containers used on an aircraft are intermodal, _____ and _____ containers.
 - A) Upper, main
 - B) Upper, lower
 - C) Main and lower
 - D) Main, upper
- 9) A _____ containers are intended for transport by air and intended for interchange with surface transport modes (road, rail and sea).
 - A) Main-deck
 - B) Lower-deck
 - C) Intermodal
 - D) Upper-deck
- 10) _____ And _____ containers can be Accommodated on the main deck of a freighter/Combi aircraft only.
 - A) Intermodal, main-deck
 - B) Main-deck, lower-deck
 - C) Upper-deck, main-deck
 - D) Upper-deck, intermodal
- 11) _____ containers come in half and full-sizes, related to the width across the aircraft.



- A) Main-deck
 - B) Lower-deck
 - C) Upper-deck
 - D) Both B and C
- 12)** _____ is the height of the Main deck containers.
- A) 117cm
 - B) 163cm
 - C) 164cm
 - D) 161cm
- 13)** A _____ is an aircraft ULD for which certification has been granted to the ULD manufacturer by the appropriate governmental airworthiness authorities.
- A) Main-deck
 - B) Lower-deck
 - C) Certified
 - D) noncertified
- 14)** _____ ULDs are regarded as removable aircraft holds because they do not meet structural capabilities of aircraft but do meet ground handling requirements.
- A) Lower deck
 - B) Certified
 - C) Non-certified
 - D) Main-deck
- 15)** Carriage of _____ ULDs is only allowed on certain types of aircraft, in certain compartment only.
- A) Certified
 - B) non-certified
 - C) Lower-deck
 - D) Main-deck
- 16)** ULDs manufactured before 1st October 1993 are identified by a _____ digit code.
- A) Eight
 - B) Nine
 - C) Ten
 - D) eleven
- 17)** ULDs manufactured after 1st October 1993 are identified by a _____ digit code.
- A) Eight
 - B) Nine
 - C) Ten
 - D) eleven
- 18)** The A in PAJ 12345 XX represents _____.
- A) ULD category
 - B) Base dimensions
 - C) Contour and compatibility
 - D) Owner/registrant
- 19)** The J in PAJ 12345 XX represents _____.
- A) ULD category
 - B) Base dimensions
 - C) Contour and compatibility
 - D) Owner/registrant
- 20)** Which one of the following ULD categories is correctly matched?
- A) A – Non-aircraft container
 - B) D certified aircraft container
 - C) P – Certified aircraft pallet
 - D) R – Non-certified container
- 21)** The main deck of a narrow-body freighter is equipped to carry _____.
- A) Loose cargo
 - B) Bulk cargo



- C) ULDs
D) igloos
- 22)** The holds in the lower deck of a narrow-body freighter is equipped to carry _____.
- A) Loose cargo
B) Bulk cargo
C) ULDs
D) igloos
- 23)** The limits for carriage of ULDs in an aircraft are weight, volume and _____.
- A) Dimensions
B) Floor loading limitations
C) Size
D) Both A and B
- 24)** The _____ is the maximum allowable combined weight of a unit and its contents (payload and accessories).
- A) Maximum take-off weight
B) Maximum landing weight
C) Maximum gross weight
D) Both A and B
- 25)** To obtain the maximum loadable volume of a container the internal volume of the container must be reduced by _____ (because of the "lose of usable volume" due to the shape of the container.)
- A) 10%
B) 20%
C) 20%
D) 40%
- 26)** ULDs packed by shippers must not contain all but oner of the following.
- A) Valuables
B) Human remains
C) Dangerous goods
D) perishables
- 27)** An aircraft that carries cargo and mail on the main deck and lower deck is known as a _____ aircraft.
- A) Combination
B) Freighter
C) Passenger
D) Conventional
- 28)** On the main deck, cargo can be carried on all but one of the following areas
- A) In cargo holds
B) On seats (special arrangement)
C) On pallets
D) All of the above
- 29)** The main deck of a narrow-body freighter is equipped to carry _____
- A) Loose cargo
B) Aircraft ULDs
C) Both A and B
D) None of the above
- 30)** On most aircraft, lower deck cargo doors are located on the _____ hand side of the plane
- A) Left
B) Right
C) Lower
D) Upper
- 31)** For inward cargo doors, the door operating area is separated from the compartment by a _____
- A) Protector bulkhead
B) Protector net
C) Flexible webbing
D) All of the above

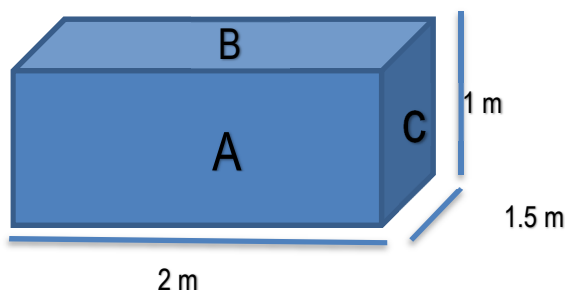


- 32)** A cargo agent in Nairobi wishes to send a package to Brasilia, Brazil. The package measures 210 x 62x74 cm. Using the loading chart as above, can the package be accommodated on the aircraft FWD hold?
 A) Yes
 B) No
- 33)** To obtain an approximate loadable volume of a container, the internal volume of the container must be reduced by _____
 A) 20%
 B) 30%
 C) 10%
 D) 25%
- 34)** A _____ ULD is a ULD for which certification has been granted to the ULD manufacturer by appropriate governmental airworthiness authorities.
 A) Certified
 B) Non-certified
 C) Aircraft
 D) Non-aircraft
- 35)** _____ containers are either 20ft. or 40ft. with a height of 8ft.
 A) Main deck
 B) Lower deck
 C) Multimodal
 D) Upper deck
- 36)** What does the character K stand for in AKN 4567 JL?
 A) Category
 B) Base dimensions
 C) Compatibility
 D) Owner/registrant
- 37)** The main deck of a narrow-body freighter is equipped to carry _____
 A) Bulk cargo
 B) Aircraft ULDs
 C) Both A and B
 D) None of the above
- 38)** The serial numbers are assigned and must be duplicated on ULDs having the same _____ and owner codes.
 A) Identification
 B) Category
 C) Type
 D) Both A and B
- 39)** Carriage of no-certified ULDs is only allowed on certain _____ in certain cargo compartments.
 A) Aircraft types
 B) Aircraft categories
 C) Aircraft contours
 D) Both B and C
- 40)** What does the characters JL stand for in AKN 4567 JL?
 A) Category
 B) Base dimensions
 C) Compatibility
 D) Owner/registrant
- 41)** A _____ is a rigid shell with no base, designed to contain cargo within a specified aircraft contour
 A) Non-aircraft ULD
 B) Non-structural igloo
 C) Noncertified aircraft UD
 D) Certified aircraft ULD
- 42)** In an aircraft, the ability to carry a load in the body or fuselage, is dependent on _____
 A) Aircraft capacity
 B) Aircraft strength
 C) Aircraft category
 D) Both A and B
- 43)** The cabin and hold floors are formed by placing floor panels onto a network of supporting _____
 A) Ball mats



- B) Beams
 - C) Roller trolleys
 - D) Both B and C
- 44) A _____ is an aircraft with a fuselage with of approximately 3-4m(10-13ft) with a single aisle between the passenger seats.
- A) High capacity
 - B) Conventional
 - C) Convertible
 - D) Combination
- 45) An aircraft's _____ is primarily the passenger carrying level.
- A) Lower Deck
 - B) Main Deck
 - C) Lower Deck
 - D) Upper Deck
- 46) Structurally, modern aircraft space is d space is divided between Main deck and lower deck, except for _____ and _____ aircraft which also have an upper deck
- A) B737/B747
 - B) A320/B757
 - C) A380/B747
 - D) A300/B747
- 47) Low density cargo may use the entire available _____ of the compartment before reaching the _____ limitation_____
- A) Capacity/Weight
 - B) Weight/Volume
 - C) Volume/Weight
 - D) Weight Capacity
- 48) Cargo density is the relationship between _____ and _____.
- A) Volume/weight
 - B) Density/volume
 - C) Weight/volume
 - D) Weight/density
- 49) A shipment is to be carried in the AFT compartment of the 737-800.It has the following details:
- | | | |
|------------------------------------|---|---------------------------|
| Commodity | : | Clothing |
| Average density | : | 120 kg per M ³ |
| Max. Volume of the compartment | : | 24.6M ³ |
| Max. weight of the AFT compartment | : | 3826 kg |
- What is the maximum allowable weight to be loaded in the compartment?
- A) 3826 kg
 - B) 2956 kg
 - C) 2952 kg
 - D) 3825 kg
- 50) A shipment is to be carried in the AFT compartment of the 737-800.It has the following details:
- | | | |
|------------------------------------|---|---------------------------|
| Commodity | : | Chemicals |
| Average density | : | 400 kg per M ³ |
| Max. Volume of the compartment | : | 24.6M ³ |
| Max. weight of the AFT compartment | : | 3826 kg |
- What is the maximum allowable weight to be loaded in the compartment?
- A) 3826 kg
 - B) 9840 kg
 - C) 2952 kg
 - D) 3826 kg

- 51) _____ must be loaded into the holds first before _____
- Cargo/Baggage
 - Baggage/Cargo
 - ULDs/Pallets
 - Valuables/Baggage
- 52) Before a piece of cargo is loaded is accepted for carriage on an aircraft, the size of the cargo must be compared with _____ to ensure that it can be transported on all of the flights to reach its final destination.
- Compartment door
 - Compartment floor
 - Compartment contour
 - Compartment capacity
- 53) A _____ is an open front, bottomless, rigid shell made of fiberglass, metal or other suitable material.
- A non-structural igloo
 - Pallet
 - Main deck container
 - Lower deck container
- 54) Main deck containers can be accommodated on the main deck of _____ aircraft only.
- Freighter
 - Combi
 - Both A and B
 - None of the above
- 55) EN ULD can be loaded in the following aircraft but one
- IL86 main deck
 - A330/340 upper deck
 - A300-600 lower deck
 - A310 lower deck
- 56) A _____ is an aircraft ULD for which certification has been granted to the ULD manufacturer by the appropriate governmental airworthiness authorities.
- Lower deck ULD
 - Main Deck ULD
 - Certified ULD
 - Non – Certified ULD
- 57) The J in PAJ 12345 XX _____
- ULD Category
 - Contour and Compatibility
 - Base dimensions
 - Serial number



What is the pressure exerted on the floor when the following sides are in contact with the floor?

Side A _____ kg/m²

Side B _____ kg/m²

Side C _____ kg/m²

- 58) From a) above, the maximum floor loading limitation for this aircraft is 650kg/m². In which position(s) (e.g. Side A, B, C) can the piece be loaded on the aircraft without exceeding the floor loading limitations?

- A) SIDE A
 - B) SIDE B
 - C) SIDE C
 - D) SIDE A&B
- 59)** The Floor loading limitation for the Lower deck of Boeing B737 is_____
- A) 735kgs
 - B) 976lbs
 - C) 732lbs
 - D) 1464kgs
- 60)** What is pivot weight ULD rate category 5 from BOM to OUA?
- A) 2200kgs
 - B) 3000kgs
 - C) 2530kgs
 - D) 3040kgs
- 61)** _____ is a platform with a flat under-surface, built to standard aircraft requirements, on which goods are assembled.
- A) Igloo
 - B) Pallet
 - C) Main deck container
 - D) Lower deck container

End of Paper, 2021

