DM Air 135.293 (a)(1)(4-8) Oral Study Guide

Reference Material:

- FAR/AIM
- General Operations Manual (GOM)
- Operational Specifications (OpSpec)
- FOTM
- Hazardous Material (HAZMAT) Manual
- Aviation Weather AC 00-6B
- Minimum Equipment List (MEL)
- Non-Essential Furnishings (NEF)
- Terminal Procedures (TERPS) charts
- Enroute charts
- METAR & TAF
- Cockpit checklists

Pre-Check:

- Pilot's license
- Medical certificate
- Pilot Records binder

You are going to be given an oral examination required by 135.293 (a)(1)(4-8), which relates to 14 CFR § 61,91 and 135, DM Air OpSpecs, DM Air's GOM, as well as other subject areas. Soon you will complete the training and checking portions of 14 CFR § 135.293 (a)(2-3) (b) which is aircraft specific. All portions of 14 CFR § 135.293 are required to be completed every 12 months.

Your oral exam will consist of questions regarding:

- rules and regulations from 14 CFR § 61, 91 and 135
- OpSpecs
- GOM
- Navigation and use of navigational aids
- Instrument approach facilities and procedures
- ATC procedures (including IFR procedures)
- Meteorology (including: fronts, icing, fog, thunderstorms, high altitude weather, and windshear)
- Severe weather avoidance
- Low altitude wind shear escape methods
- Operating near thunderstorms, best penetrating altitudes and clear air turbulence
- New equipment procedures and techniques

Keep in mind, all the answers do not have to be memorized. You must, however, know where to find the answers. There will be no instruction given during the oral exam. The result of this exam will be either a "SAT" or an "UNSAT". The exam will begin now.

Scenario:

You have been assigned a flight from KDJT to KTEB.
Locate and pull up the approach charts for the two airports.

Weather:
Daytime
KDJT Wx – 100' overcast : 1/4 mile visibility : wind 050 @ 18kts. : altimeter 29.92
KTEB Wx – 500' overcast : 2 miles visibility : wind 240 @ 10kts. : altimeter 29.92
KTEB forecast – entire day – 500' overcast : 2 miles visibility : wind 240 @ 10kts. : altimeter 29.92

Questions:

1. To act as PIC on this flight, what grade of pilot certificate are you required to hold? – *ATP (GOM chpt. 4.3.1)*
2. What Class of medical certificate are you required to maintain? – *14 CFR § 61.23*
3. How long is a First Class medical good for at your age? – *1 year under 40 / 6 months over 40 / 14 CFR §61.23*
4. What is the required recency experience for your flight today? – *(3) take-off and landings as sole manipulator of the controls within the preceding 90 days in each category and class of aircraft. As well as a current 14 CFR § 135.297 instrument proficiency check. GOM chpt. 4.10 & 4.11*
5. What is considered a high minimums Captain (PIC)? – *A qualified PIC who has not logged 100 hours of PIC in the specific category, class and type (if applicable) of aircraft. GOM chpt. 4.14*
6. Give an example of category, class and type. – *category: airplane , class: airplane multi-engine land , type: DA-50*
7. If you are a high minimums captain, what minimum requirements apply? – *Increase MDA/DA by 100' and visibility by ½ mile or the RVR equivalent chart in OpSpec C054. If visibility is less than ¾ mile or RVR 4000 at the destination, the landing distance available must be 115% of the planned landing distance. GOM chpt. 4.14.3 and OpSpec C054 and 14 CFR § 135.225(e)*
8. Who is designated in the GOM to have operational control? – *the §119 position holders: DO, CP and DOM. GOM chpt. 2.6 and OpSpec A006 and A008*
9. Who is responsible for flight planning? – *the PIC. GOM chpt. 5.3.1*
10. Do you need a flight release? – *Yes. GOM chpt. 5.2*
11. Prior to issuing a flight release, what must management ensure has been completed? – *Crewmembers are current, qualified and rested, scheduled duty and flight time is not over limitations, aircraft is listed in applicable OpSpecs (especially the D085 OpSpec), aircraft is airworthy. GOM chpt. 5.2.4 & 5.2.5*
12. Where would you find what aircraft are approved for 135 operations under DM Air's Certificate? – *OpSpec D085*
13. What are standard takeoff minimums for a three-engine airplane? – *1/2 statute mile (or 2400 RVR)*
14. What (if any) are the lower than standard takeoff minimums for DM Air? – *DM Air can depart with the visibility (RVR) of 500 feet. The published takeoff minimums for the departure runway must be Standard. OpSpec C057 & C079*
15. Based on the weather in the aforementioned scenario, can DM Air depart KDJT? – *Yes. The 10-9A chart states that aircraft have a standard takeoff minimum. Therefore, according to OpSpec C057 & C079, we can go as low as 500 RVR. The Touchdown zone (TDZE) RVR is controlling.*
16. Given the weather in the scenario, would DM Air crew need to plan a takeoff alternate? – *Yes. Weather is within takeoff minimums (based on OpSpec C057), however, it is below landing minimums for runway 10L. You would need a takeoff alternate that has weather above its landing minimums within 1 hour, at normal cruise in still air. 14 CFR § 135.217*

17. Given the weather scenario, can DM Air crew land at KTEB? – *Yes. The weather is above landing minimums (even if the PIC was a high minimums captain).*
18. Do you need an alternate for KTEB? – *Yes. 14 CFR § 135.223(b)*
19. Where can you derive your alternate airport IFR minimums from? – *OpSpec C055*
20. Should you select an airport with at least (2) operational navigational facilities, each providing a straight in approach to different suitable runways, what would the ceiling need to be? – *Add 200' to the higher MDA/DA of the two approaches used. OpSpec C055 table 1*
21. Where would you find the approaches DM Air is authorized to conduct? – *OpSpec C052 table 1*
22. Where would you find what countries DM Air is authorized to fly to? – *OpSpec B050*
23. May you except a visual approach? – *Yes. GOM chpt. 10.12.7*
24. Can DM Air crews conduct "circle-to-land" approach maneuvers? – *No. We are not issued OpSpec C075*
25. Can DM Air crews operate IFR in non-towered airports in Class G airspace? – *Yes. OpSpec C064*
26. What are some of the requirements that must be met to operate IFR in non-towered airports in Class G airspace? – *OpSpec C064*
    a) *The airport is served by authorized instrument approach*
    b) *The airport has an approved source of weather reporting, or in accordance with the provisions for conducting the flight under eligible-on-demand operations*
    c) *The airport has suitable means for the PIC to acquire timely air traffic advisories and the status of airport services and facilities*
    d) *The facilities and services necessary to safely conduct IFR operations are available and operation at such time that the operation is to be conducted*
27. While conducting the RNAV (GPS) Rwy 24 approach in to KTEB, you are outside of ANGLE, and the visibility has dropped from 2 miles to 1 ¼ miles, can you continue? – *Yes. The approach straight-in landing minimums are 1 mile.*
28. While still on the same approach as above, you pass ANGLE (the FAF), and the visibility has now dropped to ½ mile, can you continue? – *Yes. 14 CFR § 135.225(d)*
29. Is DM Air authorized to use standard passenger weights? – *No. OpSpec A096 , GOM chpt. DM Air uses actual weights or solicited plus (10) pounds*
30. What are the methods approved to compute weight and balance? – *GOM chpt. 7.2*
    a) *APG Genesis*
    b) *AFM*
31. According to NTSB 830, give some examples of an aircraft accident or incident. – *GOM chpt. 16.3*
    a) *Flight control malfunction*
    b) *Inability for a crewmember to perform their function*
    c) *Aircraft fire*
    d) *Aircraft collision inflight*
    e) *Damage of more than $25,000*
    f) *A complete loss of information displayed, excluding flickering, of more than 50% of the EFIS, EICAS or ECAM*
    g) *TCAS or ACAS resolution advisories (RA) while operating IFR*
32. What would you do if you required maintenance away from home base? – *Call the DOM (or designee). GOM chpt. 6.3*
33. Where would you look to determine procedures for dealing with inoperable equipment? – *GOM sections 6.3 and 6.4*
34. List some important points to follow while refueling the aircraft. – *GOM chpt. 8*
    a) *No smoking, flames or fire within 100 feet of refueling operations*
    b) *No fueling with thunderstorm within 10 miles*
    c) *Aircraft and fuel truck shall be bonded and a fire extinguisher present while fueling*
    d) *Never fuel with any of the aircraft's engines running*
    e) *Place ground power units (GPU) upwind and as far away as possible while refueling*
35. Can a passenger bring alcohol on board and consume it while on board? – *Yes. ONLY if that person is served the beverage by the operator. No person may be served if they appear to be intoxicated. No person may be allowed to board if they appear to be intoxicated. 14 CFR § 135.121 and GOM chpt. 11.17. Note: 49 CFR § 175.10 states*

that alcohol brought on board is considered HAZMAT if the alcohol by volume (ABV) is more than 24% and the container is opened; or more than 70% ABV, if the container is closed and sealed (not to exceed 1.3 gallons per passenger). HAZMAT manual

36. Under what conditions must the aircraft's airborne weather radar function? - *IFR when thunderstorms are forecast. 14 CFR § 135.175*
37. What is DM Air's policy on ice adhering to the aircraft prior to departure? – *"Clean" aircraft concept. No ice or frost whatsoever. GOM chpt. 10.11*
38. How many minutes does DM Air have until takeoff after the pre-departure contamination check is performed? – *5 minutes. GOM chpt. 10.11.2*
39. Can an SIC complete the pre-departure contamination check? – *Yes. GOM Chpt. 10.11*
40. Does DM Air have approved aircraft deicing procedures? – *Yes. GOM chpt. 10.11 and Winter OPS Manual*
41. What would you do if a passenger interrupted you after starting a checklist? – *Start the checklist over again*
42. How long should you refrain from alcohol before reporting for duty? – *8 hours. GOM chpt. 14.8.1*
43. In what phases of flight would you observe sterile cockpit rules? – *Taxi, Takeoff, Climb, Descent, Landing and below 10,000 feet (unless in cruise). GOM chpt. 10.22.3*
44. How far from thunderstorms should you remain while inflight? – *No closer than 20 miles*
45. What routing would you fly if you lost 2-way radio communication operating IFR in IMC conditions?
    a) *Route last assigned - A*
    b) *If being vectored – direct to the fix expected in the vector clearance – V*
    c) *EFC (expect further clearance) route - E*
    d) *Flight plan route – F*

    AVE – F (avenue f)
46. What altitude would you maintain after 2-way radio communication failure in IMC operating under IFR? –
    a) *THE HIGHER OF THE FOLLOWING FOR ANY ROUTE SEGMENT*
        i. Last assigned by ATC
        ii. MEA for that route segment
        iii. Altitude ATC informed you would be expected in a further clearance time
47. Where would you look to determine the procedures for an international flight? – *GOM chpt. 18 and the IOM*
48. Is DM Air approved for Electronic Flight Bag (EFB) usage? – *Yes. OpSpec A061 and EFB Program Manual*
49. Where would you find information pertaining to DM Air's Winter Weather Operations? – *GOM Chpt. 10.11 and Winter OPS Manual*
50. Where would you find procedures for APG for W&B? – *GOM chpt. 7*
51. What are the VFR cloud clearances in Class B airspace? – *clear of clouds*
52. What is the speed restriction when flying below the veil of Class B airspace? – *200 knots*
53. Can a passenger use a E-Cigarette on board the aircraft? – *No. GOM chpt. 11.5*
54. How can you identify HAZMAT? – *GOM chpt. 19 and DOT Chart 17 (HAZMAT Manual)*
55. How do you maintain instrument currency? – *6 approaches within 6 months, holding procedures and intercepting and tracking using navigational systems. 14 CFR § 61.57. PICs can maintain this via the 14 CFR § 135.297 Instrument Proficiency Check (done every 6 months)*
56. As a member of a two-pilot crew, how many flight hours in a 24-hour period are you limited to? – *10 hours. GOM chpt. 5.8 and 14 CFR § 135.267(b)*
57. How many duty hours in a 24-hour period are you limited to? – *14 hours. GOM chpt. 4.3*
58. How much rest are you required to have in a 24-hour period which precedes the planned completion of a flight? – *10 hours. GOM chpt. 5.8*
59. While conducting the RNAV (GPS) Rwy 24 approach in to KTEB, you are outside of ANGLE, and the visibility has dropped from 2 miles to ½ mile, what do you do? – *Execute a missed approach*
60. You must land within _____% of the published landing distance available (LDA)? – *80%. 14 CFR § 135.385(b)*

61. How are OpSpecs categorized? –
    A. *General*
    B. *Enroute*
    C. *Terminal*
    D. *Maintenance*
    E. *Weight and Balance*
62. If a crewmember leaves the cockpit at FL260, what must the other crewmember do? – *Don their oxygen mask*
63. What are the maximum holding speeds by altitude?
    a) *Below 6000' – 200 knots*
    b) *6001'-14,000' – 230 knots*
    c) *14,001' and up – 265 knots*
64. How long do you have to inform the FAA of your address change? – *30 days*
65. Where would you most likely encounter hail? – *Near a thunderstorm when you anticipate colder air above*
66. What is the minimum IFR fuel reserve? – *Fly to the destination airport, go missed and proceed to the alternate airport (if applicable), plus 45 minutes*
67. When must the aircraft's position lights be ON? – *Sunset to sunrise. 14 CFR § 91.209*
68. What is the maximum speed while operating in Class D airspace? – *200 knots. AIM C(3)*
69. What is the value 6 considered under the runway condition assessment matrix (RCAM)? – *Dry. AIM C(4)*
70. What would be the indications of mountain wave activity? – *AIM C(4)*
    a) *Altitude excursions and/or airspeed fluctuations without turbulence*
    b) *Pitch and trim changes to maintain altitude*
    c) *Light to Severe turbulence*
    d) *Flying in the vicinity of mountain ranges and the presence of high Jet-Stream winds*
71. At what range and altitude behind traffic in the same direction could you encounter wake turbulence? – *10-30 miles and 1000' below. AIM C(4)*
72. What direction of turn is a standard holding pattern? – *Right. AIM C(5)*
73. If you lost visual reference past the missed-approach-point (MAP) while circling to land, what procedure would you follow? – *To become established on the missed approach procedure: make the initial climbing turn towards the landing runway and continue the turn until established on the missed approach procedure. AIM C(5)*
74. When cleared for a visual approach, what must you continue to maintain in sight? – *Either the airport or the preceding aircraft. AIM C(5)*
75. If you can not avoid penetrating a thunderstorm, what are a few things you should do? –
    a) *Tighten seatbelts and shoulder harnesses*
    b) *Plan and hold a course that gets you through in the minimum amount of time*
    c) *Establish a penetration altitude below freezing level / or above -15C*
    d) *Turn cockpit lights up*
    e) *Disengage the autopilot altitude hold*
    f) *Select a power setting for turbulence penetration speed*
76. What would be a recommended separation time frame for a takeoff behind a 'Super' for wake turbulence avoidance? – *3 minutes*
77. What are some of the means of VOR equipment accuracy? – *AIM C(1)*
    a) *VOT check*
    b) *Certified Airborne checkpoints*
    c) *Certified checkpoints on the airport surface*
    d) *A radiated VOT checkpoint from a repair station*
    e) *Dual aircraft systems*
78. What is advection fog? – *Warm moist air moves over colder ground or water. Also known as "Sea Fog"*
79. What are some signs of an unstable air mass? –
    a) *Cumuliform clouds*
    b) *Rough Air*
    c) *Good visibility*
80. What conditions would be expected if a fast-moving cold front were running under warm moist unstable air? – *Showers and thunderstorms developing along the surface position of the front*