GRCC ATC Non Radar – Take Home Test

SECTION 1
1. What condition must exist for Controllers to use Mileage-based procedures and minima?
   a. ________________________________________________________________

2. When a position report affecting separation is not received, take action to obtain the report no later than __________ after the aircraft was estimated over the fix. (Assume the aircraft was supposed to report over the fix – i.e., a fix is a compulsory reporting point)

2. (Select either TRUE, or FALSE) A pilot must make a Position Report over the same fix to more than one ATC facility if the Fix serves two different Sectors.
   a. __________

3. The ATC facility providing service to heavy jets/B757s and having control jurisdiction at adjacent airports shall separate arriving or departing IFR aircraft on a course that will cross behind the flight path of a heavy jet/B757 by at least __________

4. The Controller must provide __________ separation for IFR aircraft landing behind an arriving heavy jet/B757 if the arrivals are on the
   a. On the __________ Runway
   b. A parallel runway separated by less than __________ feet
   c. A Crossing Runway if projected flight paths will __________
   d. EXCEPTION: Use __________ if the second aircraft is a small aircraft arriving behind a Heavy jet/B757
      o Small aircraft = __________ pounds or less
      o Large aircraft = Less than __________ pounds and more than __________ pounds
      o Heavy aircraft = __________ pounds or more

SECTION 2
5. Separate IFR aircraft on diverging courses (course divergence of ________ or more) immediately after takeoff, using ________ spacing between departing aircraft?

6. NOTE: Controllers must consider ____________________________ when applying initial separation to successive departing aircraft

7. NOTE: When either departure surfaces is a helipad, use the ________ of the helicopter as the parallel course reference and the ________ of the helipad as the threshold

8. For departing IFR aircraft with diverging courses that will diverge five minutes after takeoff, Controllers must use ________ separation until courses diverge
9. For departing IFR aircraft with diverging courses that will diverge after **13 miles**, Controllers must provide ________ between departing aircraft?

10. Airport ABC has North-South parallel runways with at least **3,500 feet** of runway centerline separation. IFR aircraft departing from ABC can depart simultaneously North or South, if the flight paths/courses of each departing aircraft will diverge by at least ________ immediately after takeoff.

11. Airport DEF has two runways – RWY 19 and RWY 17. What conditions would allow IFR aircraft to be able to depart simultaneously from Airport DEF
   a. The runway directions ______________________, AND, at the nearest point, at least ________ feet separates the runway centerlines
   b. Departing aircraft will diverge by at least ________ immediately after takeoff.

12. Airport GHI has two runways – RWY 3 and RWY 9. What conditions would allow IFR aircraft to be able to depart simultaneously from Airport GHI
   a. The runway directions diverge ________________ AND departing aircraft will diverge by at least ________ immediately after takeoff, because if runway directions diverge but at least 30 degrees, runway centerlines can ________

13. Put another way, for aircraft to depart simultaneously from an airport with multiple runways that intersect, the criteria for runway centerline separation/divergence is **(Feet of separation Centerline to Centerline)**
   a. If runways diverge 0-14 degrees ________
   b. If runways diverge 15-29 degrees: ________
   c. If runways diverge 30 degrees or more: ________

14. In a Terminal Environment, for two IFR aircraft departing on intersecting runways (and each aircraft using a different runway, the Controller can allow the 2nd aircraft to take off when the:
   a. Runway centerlines diverge by ________ or more, 1st Aircraft has ________
   OR, if
   b. If the Runways diverge by 15 to 29 degrees inclusive: 1st Aircraft (preceding aircraft) has ________

15. When two aircraft are going to depart and fly the same course, **and** the following aircraft will climb through the altitude of the preceding aircraft, a following departing aircraft must have at least (time)_________ or (DME or LTD)__________

16. To use DME or LTD to separate aircraft on the same course, aircraft must be at least (altitude) ________ ________ (altitude) OR (distance) ______________
SECTION 3

17. In a Terminal Environment, Controllers must use (Distance) _______ to separate the Arriving Aircraft from an IFR Aircraft departing from the same airport, provided the course of the outbound (departing) aircraft and the inbound (arriving aircraft) diverge by at least _______ until vertical or lateral separation exists.

18. If the Controller can’t apply the Distance Rule in the statement above, the Controller must use (Time) _______ to separate departing and arriving IFR aircraft. Again, the course of the outbound (departing) aircraft and the inbound (arriving aircraft) diverge by at least _______ until vertical or lateral separation exists.

19. The inbound aircraft will make a procedure turn as part of the approach to the airport. The Controller must provide at least (time) _______ between the departure of the outbound aircraft before clearing the inbound arriving aircraft to start the _______________ to commence the Approach.

SECTION 4

20. Controllers can achieve longitudinal separation by requiring aircraft to do what four things:
   a. ____________________________________
   b. ____________________________________
   c. ____________________________________
   d. ____________________________________

21. Controllers can separate aircraft on ________, _________ or _________ courses using time and distance minima.

22. To separate a leading enroute aircraft that is at least 44 knots faster than a ________, _________ or _________ aircraft, including following aircraft that are _______ from airports, Controller must use a minimum of: _______ (time) or _______ (distance) provided that, when using distance criteria, aircraft using DME are _________ feet or beyond _______ of the DME NAVAID.

23. To separate a leading enroute aircraft that is at least 22 knots faster than a ________, _________ or _________ aircraft, including following aircraft that are _______ from airports, Controller must use a minimum of: _______ (time) or _______ (distance) provided that, when using distance criteria, aircraft using DME are _________ feet or beyond _______ of the DME NAVAID.

24. For IFR aircraft on the same, converging or crossing courses where one aircraft has DME or LTD/RNAV equipment and the other aircraft does not have DME or LTD, provided that both aircraft use the_________ NAVAID, the controller must maintain at least _______ or _______ of longitudinal (following) separation.
25. Two RNAV aircraft are on the same airway, in opposite directions. Both aircraft just reported passing the same fix. How much distance must the Controller use to provide minimum longitudinal separation between the aircraft:
   a. On an Airway 8 miles or less in width - __________
   b. Operating along an expanded route, where the NAVAID providing course guidance is beyond 130 miles - __________

26. An RNAV aircraft and an aircraft using VOR are flying opposite directions. Both aircraft, reported passing the same fix. The RNAV aircraft is at least 4 miles past the fix. How much distance must the Controller use to provide minimum longitudinal separation between the aircraft:
   a. On an Airway 8 miles or less in width __________
   b. Operating along an expanded route, where the NAVAID providing course guidance is beyond 130 miles __________

27. An RNAV aircraft and an aircraft using VOR, going on opposite directions, have reported passing the same fix. The RNAV aircraft is at least 9 miles past the fix. If the aircraft are operating along an expanded route, where the NAVAID providing course guidance is beyond 130 miles, the Controller must use at least __________ to provide minimum longitudinal separation between the aircraft:

28. Two aircraft are on the same course, both aircraft are on the same control frequency, and the pilots can talk with each other.
   a. To allow the Pilots to separate each other, the Controller must first provide at least __________ of time or __________ of distance – AND –
   b. the pilots can only use Distance separation criteria if both aircraft have Distance Equipment (__________) and
   c. the aircraft are either at or below (Altitude) _______, or beyond (DME)_________ from the DME NAVAID

SECTION 5
29. Controllers can achieve lateral separation by clearing aircraft to
   a. _______________________________________________________
      _______________________________________________________
   b. (Below 18,000 feet ) __________________________________________
      _______________________________________________________
   c. _______________________________________________________
   d. _______________________________________________________
      _______________________________________________________
30. Controllers can assume separation between two IFR aircraft exists if the aircraft are on diverging radials from the same NAVAID and the aircraft are:

a. ____________________________________________________________________ (condition) – PROVIDED

b. (for non-VOR/DME equipped aircraft) ____________________________________________________________________

31. Refer to the **non-DME Divergence Table in Section 5**. If two aircraft have diverging courses, how much distance must the Controller provide between the two aircraft if course divergence is:

a. 35 degrees (distance) __________

b. 17 degrees (distance) __________

32. Refer to the **Divergence Distance Table in Section 5**. If two aircraft have diverging courses, and the aircraft are **below FL 180**, the Controller must provide _____ between the two aircraft if course divergence _____ is:

a. 25 degrees (distance) __________

b. 19 degrees (distance) __________

33. Refer to the **Divergence Distance Table in Section 5**. If two aircraft have diverging courses, and the aircraft are **at FL 350**, how much distance must the Controller provide between the two aircraft if course divergence is:

a. 30 degrees (distance) __________

b. 22 degrees (distance) __________

34. Two IFR aircraft are flying arcs around the same NAVAID, how much arc distance must the Controller provide between the two aircraft, and both aircraft are

a. Within 28 miles from the NAVAID (distance) __________

b. Within 42 miles from the NAVAID (distance) __________
35. An IFR aircraft is flying an arc around a NAVAID that also provides course guidance for a Holding Pattern. How much arc distance must the Controller provide between the Arcing aircraft and the Protected Airspace of the Holding Pattern

   a. (distance) _______________ (distance) or

   b. (distance) _______________ (distance)

   **NOTE:** Separation depends on distance the of aircraft from the __________

36. On an Enroute segment between two NAVAIDS, the protected airspace be 10 Nautical Miles wide when the distance from the NAVAID is __________

37. Controllers can use Timed Approaches by using either __________ procedures or __________ Vectors to the Final Approach Course? (ignore the italicized commentary for this study guide item) provided

   a. ______________________________________________________________________

   b. ______________________________________________________________________

38. If only one missed approach procedure is available, the following conditions are met

   a. ______________________________________________________________________

   b. ______________________________________________________________________

39. Timed Approaches - For the Approach Sequence, before the Controller can issue a clearance to the next aircraft intending to make a Timed Approach, the succeeding aircraft on approach must have

   a. ______________________________________________________________________

   b. ______________________________________________________________________

   c. ______________________________________________________________________

40. Timed Approaches - When issuing the Clearance to the next aircraft using a Timed Approach, what must the Clearance include?

   a. (descent) ______________________________________________________________________

   b. (position) ______________________________________________________________________

   c. (when) ______________________________________________________________________
41. Timed Approaches - Even though a Timed Approach is for Non-radar operations, can the Controller position the Aircraft for a Timed Approach using Radar?
   a. (yes or no) ______

42. Timed Approaches - The Controller must provide (time) ______ or (distance) _____ for an IFR aircraft following another IFR aircraft on a Timed Approach?

43. Timed Approaches - The Controller must provide (time) ______ or (distance) _____ for a smaller aircraft following a larger aircraft on a Timed Approach?

44. Timed Approaches - Unless the aircraft is vectored to the final approach course, the Controller must issue a Time Check to the Aircraft making a Timed Approach before specifying________________________________________

45. The Controller issue an Alternate Missed Approach when

______________________________________________________________

______________________________________________________________

46. The Controller must issue an Alternate Missed Approach to ____________ if ____________ (two aircraft can’t execute the same missed approach at the same time)