FFF Learning Evaluation – Multiple Choice Questions

Part Three

–Aerophysiology –

1. Which is the main layer of the atmosphere where airplane pilots fly?
   - **A.** Troposphere
   - **B.** Tropopause
   - **C.** Stratosphere
   - **D.** Mesosphere

2. Internationally famous golfer, Payne Stewart, was killed in a 1999 plane crash. What did the NTSB determine the cause of the tragedy to be?
   - **A.** Hypoxia
   - **B.** Diabetic coma of the flight crew
   - **C.** High Altitude Cerebral Edema
   - **D.** Oxygen-related explosion on board

3. The time of useful consciousness at 45,000 feet without oxygen is:_____.
   - **A.** 30 minutes
   - **B.** 3-5 minutes
   - **C.** 9-15 seconds
   - **D.** 5-10 minutes

4. As a pilot climbs higher and higher, the _____ of oxygen remains the same, but the ____ required for oxygen molecules to pass between the membranes of the respiratory system decreases and this can become a threat.
   - **A.** concentration, percentage
   - **B.** percentage, pressure
   - **C.** density, concentration
   - **D.** density, percentage

5. Hypoxia, by definition, means what?
   - **A.** Stagnant oxygen
   - **B.** Reduced oxygen
   - **C.** Contaminated oxygen
   - **D.** Tissue-deprived oxygen

6. What type of hypoxia occurs when the blood is not able to take up and transport a sufficient amount of oxygen to the cells of the body?
   - **A.** Hypoxic
   - **B.** Stagnant
   - **C.** Histotoxic
   - **D.** Hypemic

7. Which of the following symptoms is not that of hypoxia?
   - **A.** Blue fingernails and lips
   - **B.** Headache
   - **C.** Reddening of the face
   - **D.** Drowsiness

8. As hypoxia worsens, the field of _____ begins to narrow and _____ interpretation can become difficult.
   - **A.** Concentration, decision
   - **B.** Vision, instrument
   - **C.** Concentration, hearing
   - **D.** Vision, communications

9. What is a deadly, colorless, odorless gas that can endanger a pilot's performance?
- **A.** Carbon dioxide
- **B.** Stagnant oxygen
- **C.** Carbon monoxide
- **D.** Systemic nitrogen

10. What occurs when an individual is experiencing emotional stress, intense fear, pain, anxiety, and accelerating breathing?
- **A.** Hypoventilation
- **B.** Hyperventilation
- **C.** Histotoxic hypoxia
- **D.** Unconsciousness

11. Climbing and descending in an airplane can sometimes cause what physical issues?
- **A.** Ear or sinus pain
- **B.** A temporary reduction in one's ability to hear
- **C.** A collapse of the Eustachian tube
- **D.** Items A and B are both correct

12. The procedure of pinching one's nose, sealing the lips, and blowing is called what?
- **A.** The Valsalva maneuver
- **B.** The decompression maneuver
- **C.** Induced hypoxia
- **D.** A blowout

13. _____ refers to the lack of orientation with regard to the position, attitude, or movement of an airplane.
- **A.** Disabling
- **B.** Hyperventilation
- **C.** Hypoxia
- **D.** Spatial disorientation

14. When visual contact with the horizon is lost when flying, what system may become unreliable?
- **A.** Respiratory
- **B.** Excretory
- **C.** Vestibular
- **D.** Auditory

15. If contact with the horizon is lost in more than one event while flying, the inner ear may fool the pilot into thinking the airplane has started a bank in the other direction, thus causing a deadly maneuver known as what?
- **A.** A stall
- **B.** A graveyard spiral
- **C.** A spin
- **D.** A Valsalva spiral

16. When pilots smoke just prior to flying, more than _____ feet of "altitude" is added to the body's effort to conduct the respiration cycle.
- **A.** 10,000
- **B.** 12,000
- **C.** 4,500
- **D.** 1,000

17. _____ _____ is the process by which the eyes adapt for optimal visual conditions under low ambient illumination.
- **A.** Dark adaptation
- **B.** Ocular degeneration
- **C.** Macular degeneration
- **D.** Ambient compensation

18. Which of the following factors are an issue with red cockpit lighting?
    A. Negatively affects night vision
    B. Makes reading aeronautical charts easier
    C. Washes out the color of red on the instrument panel
    D. Has no negative effect

19. The night blind spot is located where?
    A. 5-10º around central vision
    B. 0-20º around central vision
    C. 100º in an arc from central vision
    D. About 45º from central vision

20. In the illustration concerning the anatomical blind spot, when a pilot focuses on the “gun sight,” what happens?
    A. The gun sight disappears
    B. The airplane in the opposite windscreen gets brighter
    C. The airplane in the opposite windscreen disappears
    D. Both the gun sight and airplane soon disappear