Diving Safety – Scientific Diving Exam

1. The effect of pressure on a gas is that:
   a. As the pressure decreases, the volume increases
   b. As the pressure increases, the volume increases
   c. As the pressure decreases, the volume decreases
   d. As the pressure increases, the volume remains the same

2. An absolute pressure of 5 atmospheres will be found at:
   a. 33 feet
   b. 66 feet
   c. 99 feet
   d. 132 feet

3. The type of equipment commonly used by the sport diver is:
   a. Hard hat and suit
   b. Semi-closed circuit
   c. Closed-circuit
   d. Open-circuit

4. An important piece of equipment to check on your air supply while diving is:
   a. Depth gauge
   b. Stem gauge
   c. Submersible gauge
   d. Tank pressure gauge

5. A knife is a necessary piece of equipment because:
   a. It is a good defense against sharks
   b. It can be used in hunting
   c. It can be a tool to cut rope, fish line, kelp, etc.
   d. It adds weight and looks good

6. The SCUBA diver breathes air at about
   a. 14.7 psi
   b. Gauge pressure
   c. Ambient pressure
   d. Atmospheric pressure

7. The sum of atmospheric pressure and gauge pressure is:
   a. Barometric pressure
   b. Gauge pressure
   c. Bottom pressure
   d. Absolute pressure
8. The actual size and distance of objects are distorted underwater by appearing:
   a. Larger and farther away
   b. Larger and closer
   c. Smaller and closer
   d. Small and farther away

9. Each foot of descent into the water produces a pressure increase of
   a. 14.7 psi
   b. 33 psi
   c. ½ psi
   d. 1 psi

10. Assuming the same breathing rate, 100 minutes of air on the surface will last approximately how long at 33 feet?
    a. 33 minutes
    b. 50 minutes
    c. 75 minutes
    d. 100 minutes

11. A completely suited SCUBA diver loses buoyancy while descending due to:
    a. Tank air compression
    b. Additional weight of equipment
    c. Wet suit compression
    d. Decreasing air supply

12. Air bubbles blocking the flow of blood refers to:
    a. Inert gas narcosis
    b. Thoracic squeeze
    c. Bends
    d. Oxygen poisoning

13. While descending without SCUBA, a diver may experience:
    a. Air embolism
    b. Thoracic squeeze
    c. Bends
    d. Oxygen poisoning

14. The repetitive dive tables are designed to prevent:
    a. Oxygen poisoning
    b. Thoracic squeeze
    c. Air embolism
    d. Decompression sickness
15. A “reverse block” refers to:
   a. Sinuses during descent
   b. Ears during ascent
   c. Joints during ascent
   d. Teeth during ascent

16. Hyperventilation causes the body to:
   a. Lower the CO₂ level
   b. Increase the air volume
   c. Lower the nitrogen level
   d. Lower the oxygen level

17. The minimum Surface Interval Time should be:
   a. 5 minutes
   b. 10 minutes
   c. 15 minutes
   d. 30 minutes

18. Bottom time is measured from:
   a. The time you arrive on the bottom until the time you leave the bottom
   b. The beginning of descent to beginning of ascent
   c. Beginning of dive to end of dive
   d. The time you arrive on the bottom until the time you arrive back at the surface

19. A layer of water with a rapid change in temperature is called a:
   a. Thermocline
   b. Temperature barrier
   c. Isotherm
   d. Cold spot

20. Reaching into dark crevices or under rocks may invite problems from:
   a. Barracudas
   b. Sharks
   c. Scorpions
   d. Moray eels

21. If a person has drowned:
   a. Take him to land and give artificial respiration
   b. Give immediate artificial respiration in the water
   c. Try to revive him by slapping his hands and face
   d. Tow him to nearest boat or float and give artificial respiration
22. First aid for heavy bleeding is:
   a. Apply a tourniquet
   b. Apply a cold compress
   c. Use direct pressure over the wound
   d. Treat for shock

23. Before diving:
   a. Open valve all the way and back off ½ turn
   b. Check regulator to see that it is working
   c. Make sure your buddy is OK and ready to dive
   d. All of the above

24. If you are diving shallower than 30 feet:
   a. You can stay down only 30 minutes without decompression
   b. You must always consult the Doppler decompression tables
   c. You must be prepared for decompression stops
   d. You must consult with your dive buddy

25. Don’t dive with a bad cold because:
   a. It is more contagious to other divers in the water
   b. It will be more difficult clearing air passages
   c. It will affect your vision
   d. It will lead to pneumonia

26. The average diver should have his tank filled with:
   a. Pure oxygen
   b. Half oxygen and half carbon dioxide
   c. Pure air
   d. A special blend of oxygen and helium

27. The standard rate of ascent is:
   a. 10 ft/sec
   b. 100 ft/min
   c. 30 ft/sec
   d. 30 ft/min

28. Diving tanks left in the hot sun:
   a. Will crack if suddenly put into cold water
   b. Will have an increase in air pressure inside the tank
   c. Will have a decrease in air pressure inside the tank
   d. Will make the air too hot to breathe
29. Salt water weighs:
   a. The same as fresh water
   b. More than fresh water
   c. Less than fresh water
   d. 14.7 psi

30. Cardiopulmonary resuscitation should be given:
   a. At the first sign of shock
   b. Only by a physician
   c. Only as a last resort
   d. Only by individuals knowledgeable in CPR

31. A safe diver should always:
   a. Dive alone
   b. Hold his breath on ascent
   c. Have the latest equipment
   d. Know and respect his limitations

32. A diver cannot keep his ears cleared by:
   a. Descending feet first
   b. Yawning and swallowing
   c. Pressing on them
   d. Holding his nose and blowing

33. Standard practice in the dive industry holds that a SCUBA tank should be internally inspected every:
   a. 5 years
   b. 3 years
   c. Year
   d. Month

34. Proper maintenance of a regulator includes:
   a. Washing in salt water after every use
   b. Disassembling after every use
   c. Washing in fresh water after every use
   d. Oiling regularly

35. The greatest change in water pressure occurs:
   a. From the surface to 33 feet
   b. The deeper you go
   c. At around 33 feet
   d. Below 100 feet
36. Diving in a mountain lake:
   a. Requires less depth and time for decompression
   b. Requires more depth and time for decompression
   c. Is the same as diving at sea level
   d. Is not recommended

37. A symptom of carbon monoxide poisoning is:
   a. Red lips
   b. Blue lips
   c. White lips
   d. Shock

38. First aid does not require immediate:
   a. Direct pressure on profuse bleeding
   b. Treatment for shock
   c. Mouth to mouth resuscitation for drowning
   d. Prescription of medication for internal pain

39. The partial pressure of oxygen in air at the surface is approximately:
   a. ½ psi
   b. 3 psi
   c. 14.7 psi
   d. 33 psi

40. The most dangerous threat to the normal diver is:
   a. Sharks
   b. Equipment malfunction
   c. Panic
   d. High waves

41. Immediate first aid for suspected decompression sickness is:
   a. Oxygen administration
   b. Take victim to a decompression chamber
   c. Return victim to deepest depth of the dive
   d. CPR

42. When diving in a current:
   a. The first part of the dive should be up-stream
   b. Always dive into the current at the beginning of the dive
   c. Plan the dive to take advantage of the current when returning
   d. All of the above
43. The pattern for buddy breathing should be:
   a. Inhale, exhale, inhale, exhale
   b. Exhale, inhale, exhale, inhale
   c. Whatever is comfortable
   d. Breathe until your buddy indicates it is his turn

44. While planning with the repetitive dive tables:
   a. Plan your deepest dive first
   b. Plan your deepest dive last
   c. Keep your surface interval times to a minimum
   d. Keep all your dives at about 33 feet

45. Nitrogen narcosis gives symptoms of:
   a. Cherry red lips
   b. Erratic, light-headed behavior
   c. Bubbles under the skin or in the joints
   d. A sharp pain in the affected area

46. A current that runs from the shore throughout the surf zone is called an:
   a. Ebb current
   b. Wave crest
   c. Off-shore current
   d. Rip current

47. Oxygen and carbon dioxide are exchanged through the:
   a. Bronchial tubes
   b. Alveoli
   c. Trachea
   d. Heart

48. Water absorbs heat away from the body:
   a. Faster than air
   b. Slower than air
   c. Through perspiration
   d. The same as air

49. The markings on a SCUBA tank do not indicate:
   a. The type of metal it is made from
   b. The date of manufacture
   c. The allowed pressure
   d. The current pressure
50. Open Water Diver certification is:
   a. A license to learn more about diving
   b. A prerequisite to advanced diving
   c. A refresher course for certified divers
   d. All of the above