

## 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.  $\frac{1}{2}$  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:
- Sinuses during descent
  - Ears during ascent
  - Joints during ascent
  - Teeth during ascent
16. Hyperventilation causes the body to:
- Lower the CO<sub>2</sub> level
  - Increase the air volume
  - Lower the nitrogen level
  - Lower the oxygen level
17. The minimum Surface Interval Time should be:
- 5 minutes
  - 10 minutes
  - 15 minutes
  - 30 minutes
18. Bottom time is measured from:
- The time you arrive on the bottom until the time you leave the bottom
  - The beginning of descent to beginning of ascent
  - Beginning of dive to end of dive
  - 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:
- Thermocline
  - Temperature barrier
  - Isotherm
  - Cold spot
20. Reaching into dark crevices or under rocks may invite problems from:
- Barracudas
  - Sharks
  - Scorpions
  - Moray eels
21. If a person has drowned:
- Take him to land and give artificial respiration
  - Give immediate artificial respiration in the water
  - Try to revive him by slapping his hands and face
  - Tow him to nearest boat or float and give artificial respiration

22. First aid for heavy bleeding is:
- Apply a tourniquet
  - Apply a cold compress
  - Use direct pressure over the wound
  - Treat for shock
23. Before diving:
- Open valve all the way and back off  $\frac{1}{2}$  turn
  - Check regulator to see that it is working
  - Make sure your buddy is OK and ready to dive
  - All of the above
24. If you are diving shallower than 30 feet:
- You can stay down only 30 minutes without decompression
  - You must always consult the Doppler decompression tables
  - You must be prepared for decompression stops
  - You must consult with your dive buddy
25. Don't dive with a bad cold because:
- It is more contagious to other divers in the water
  - It will be more difficult clearing air passages
  - It will affect your vision
  - It will lead to pneumonia
26. The average diver should have his tank filled with:
- Pure oxygen
  - Half oxygen and half carbon dioxide
  - Pure air
  - A special blend of oxygen and helium
27. The standard rate of ascent is:
- 10 ft/sec
  - 100 ft/min
  - 30 ft/sec
  - 30 ft/min
28. Diving tanks left in the hot sun:
- Will crack if suddenly put into cold water
  - Will have an increase in air pressure inside the tank
  - Will have a decrease in air pressure inside the tank
  - Will make the air too hot to breathe

29. Salt water weighs:
- The same as fresh water
  - More than fresh water
  - Less than fresh water
  - 14.7 psi
30. Cardiopulmonary resuscitation should be given:
- At the first sign of shock
  - Only by a physician
  - Only as a last resort
  - Only by individuals knowledgeable in CPR
31. A safe diver should always:
- Dive alone
  - Hold his breath on ascent
  - Have the latest equipment
  - Know and respect his limitations
32. A diver cannot keep his ears cleared by:
- Descending feet first
  - Yawning and swallowing
  - Pressing on them
  - Holding his nose and blowing
33. Standard practice in the dive industry holds that a SCUBA tank should be internally inspected every:
- 5 years
  - 3 years
  - Year
  - Month
34. Proper maintenance of a regulator includes:
- Washing in salt water after every use
  - Disassembling after every use
  - Washing in fresh water after every use
  - Oiling regularly
35. The greatest change in water pressure occurs:
- From the surface to 33 feet
  - The deeper you go
  - At around 33 feet
  - Below 100 feet

36. Diving in a mountain lake:
- Requires less depth and time for decompression
  - Requires more depth and time for decompression
  - Is the same as diving at sea level
  - Is not recommended
37. A symptom of carbon monoxide poisoning is:
- Red lips
  - Blue lips
  - White lips
  - Shock
38. First aid does not require immediate:
- Direct pressure on profuse bleeding
  - Treatment for shock
  - Mouth to mouth resuscitation for drowning
  - Prescription of medication for internal pain
39. The partial pressure of oxygen in air at the surface is approximately:
- $\frac{1}{2}$  psi
  - 3 psi
  - 14.7 psi
  - 33 psi
40. The most dangerous threat to the normal diver is:
- Sharks
  - Equipment malfunction
  - Panic
  - High waves
41. Immediate first aid for suspected decompression sickness is:
- Oxygen administration
  - Take victim to a decompression chamber
  - Return victim to deepest depth of the dive
  - CPR
42. When diving in a current:
- The first part of the dive should be up-stream
  - Always dive into the current at the beginning of the dive
  - Plan the dive to take advantage of the current when returning
  - All of the above

43. The pattern for buddy breathing should be:
- Inhale, exhale, inhale, exhale
  - Exhale, inhale, exhale, inhale
  - Whatever is comfortable
  - Breathe until your buddy indicates it is his turn
44. While planning with the repetitive dive tables:
- Plan your deepest dive first
  - Plan your deepest dive last
  - Keep your surface interval times to a minimum
  - Keep all your dives at about 33 feet
45. Nitrogen narcosis gives symptoms of:
- Cherry red lips
  - Erratic, light-headed behavior
  - Bubbles under the skin or in the joints
  - A sharp pain in the affected area
46. A current that runs from the shore throughout the surf zone is called an:
- Ebb current
  - Wave crest
  - Off-shore current
  - Rip current
47. Oxygen and carbon dioxide are exchanged through the:
- Bronchial tubes
  - Alveoli
  - Trachea
  - Heart
48. Water absorbs heat away from the body:
- Faster than air
  - Slower than air
  - Through perspiration
  - The same as air
49. The markings on a SCUBA tank do not indicate:
- The type of metal it is made from
  - The date of manufacture
  - The allowed pressure
  - 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