



Diver UDI **

Advanced Open Water Diver

Examination sheet A



First name:..... Last name:..... Date:.....

*Time limit: 60min, allowed tools: dive table, pocket calculator
The right answers should be clearly marked on this sheet.
Please note that even multiple answers can be correct.*

To pass, at least 33 questions must be answered correctly.

- 01. You dive in a mountain lake at 1300m above sea level.
Which air pressure according to rule of thumb prevails at this altitude and
what does that mean for your diving instruments?**

870mbar (0,87bar)

1 Point

- 02. Your scuba tank lies in the sun before a dive.
What happens, when you are diving in cold water?**

- A** The pressure in the scuba tank increases due to the cooling.
- B** There is a risk that the paint will peel off due to cooling.
- C** For steel cylinders, the temperature has no influence to the pressure in the bottle.
- D** The pressure in the scuba tank decreases.
- E** The scuba tank can get cracks.

- 03. How can you hear under water?**

I can hear underwater, but can **not locate** the distance and **direction** to the sound source.

2 Points

04. What is a barotrauma?

- A A leak in the diving mask.
- B An arterial gas embolism.
- C A burn by a jellyfish.
- D A pressure injury of cavities during the ascent or descent.
- E An emerging panic during a dive.

05. Which gas in our breathing air can be toxic at the corresponding partial pressure?

- A Each gas has toxic properties from 4bar
- B Helium (He)
- C Argon (Ar)
- D Oxygen (O₂)
- E Nitrogen (N₂)

06. If the weight of a diver is the same as the amount of water it displaces, then the diver will?

- A Have a higher air consumption
- B Ascend.
- C Drifting.
- D Hover.
- E Descend.

07. A freediver has a lung volume of 5L and dives down to 10m. How is his lung volume at this depth?

- A 5L
- B 1L
- C 2,5L
- D 4L
- E 1,66L

08. At greater depths your body is deprived of more heat than at lower depths, why?

- A Because the diving suit loses insulation with increasing depth.
- B At greater depths, the water is colder.
- C At greater depths, more air is consumed, thus depriving the body of more heat.
- D The air cooling in the scuba tank must be reheated by the body while breathing.
- E** All the answers above are correct.

09. As a group leader, you have been conducting a dive with a further three dive buddies for 12 minutes in a very cold lake. A diver clearly signals that he is freezing and wants to turn back with his buddy.

- A You give your OK sign and the group divides.
- B You rise to 6m and continue the dive.
- C You give the signal that the divers should move closer together.
- D** You give the sign to turn around and the whole group dives back.
- E You get faster, so that the diver warms up again through movement.

10. According to the law of Boyle and Mariotte

- A $B : L = \text{constant}$
- B** $P \times V = \text{constant}$
- C $S / T = \text{constant}$
- D $P : T = \text{constant}$
- E $D \times M = \text{constant}$

11. As a group leader you lead a dive with two inexperienced divers. A diver signals problems with the pressure equalization during the descent. What are you doing?

- A I just give the OK sign and continue to dive.
- B As a skilled diver, he knows himself what to do.
- C** I stop the descent. If the diver is unable to correct his pressure equalization problems, we will reduce the depth of the dive. If necessary, interrupt the dive.
- D We accelerate the descent.
- E I initiate the emergency ascending.

12. Explain the "pool blackout" and how it is favored.

Sudden fainting in the shallow water / swimming pool during distance or time diving, which is favored by previous hyperventilation.

By hyperventilating the respiratory threshold is shifted so that due to the lack of oxygen the unconsciousness occurs before the appearance of the breath stimulus.

3 Points

13. Which factors favor a DCS disease?

- A Previous apnea dives
- B Disregard of the ascending rules.
- C Strong alcohol consumption the night before.
- D Inadequate hydration before the dive.
- E A too tight diving mask.

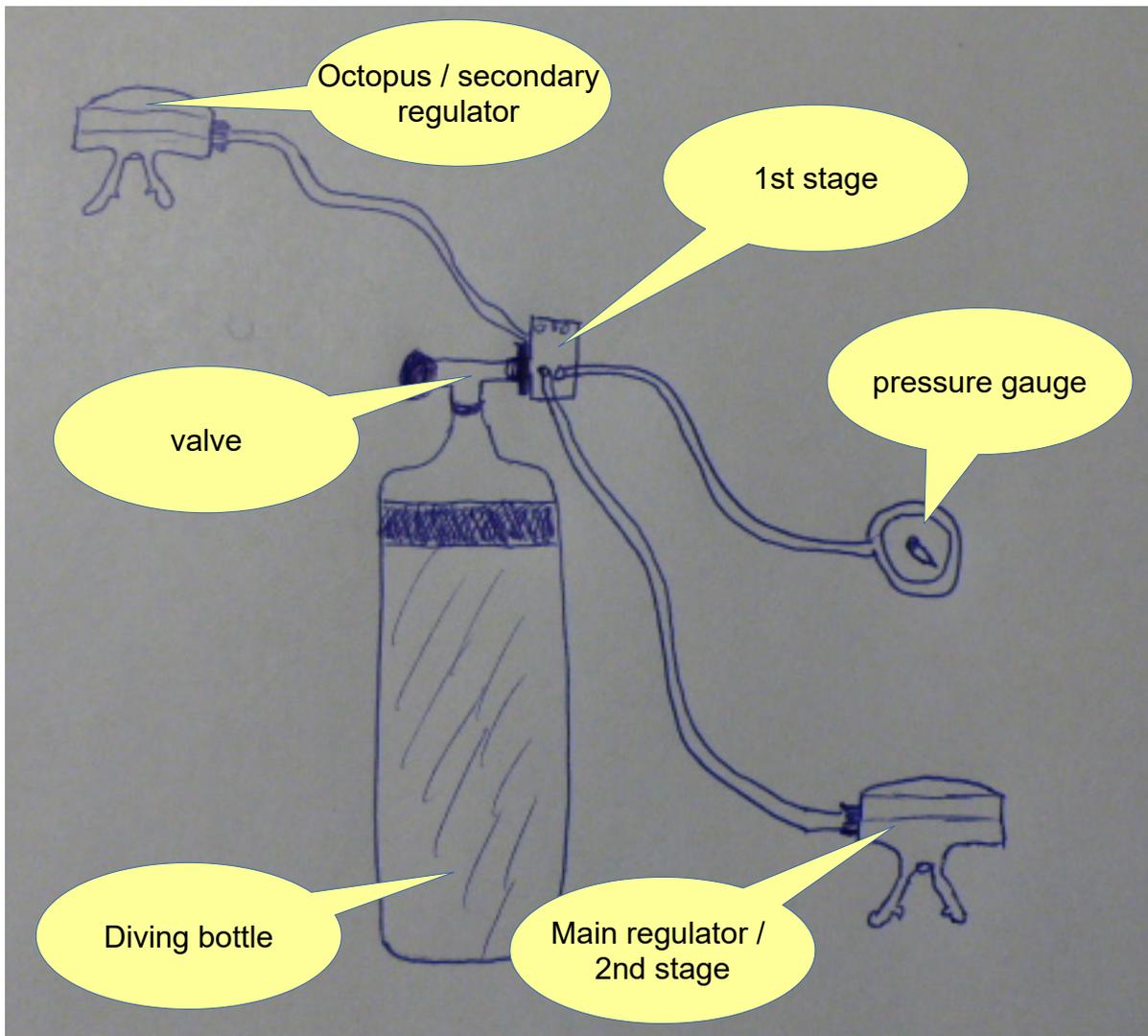
14. As a group leader you are diving in a group of four. You realize that a diver is missing, what are you doing?

- A I continue to dive as the dive site is well known to us.
- B Two divers are waiting below, me as a group leader ascend to the water surface.
- C Since we are still three, we can safely continue the dive.
- D I immediately initiate the emergency ascend and start the rescue procedure.
- E We look around another 1 minute and then turn up to the surface of the water according to the rules.

15. What depth do you dive with your group at most, if you do not feel well? You are the only one who knows the dive site.

- A 3m
- B 5m
- C 10m
- D 20m
- E I don't dive if I do not feel well myself.

16. Sketch a scuba tank and regulator without jacket for a dive in warm water and name the most important parts.



6 Points

17. Who may fill a scuba tank?

- A** Anyone who has unobstructed access to the compressor.
- B** Only paying members of a diving club.
- C** Only licensed instructors.
- D** Only expert persons and persons instructed by expert persons.
- E** All the answers above are correct

18. You arrived at the dive site and assemble your diving equipment. Who is responsible for the operational readiness of the diving equipment?

- A** The manufacturer
- B** The dive buddy after the buddy check.
- C** The leader of the diving group.
- D** Every diver itself.
- E** All the answers above are correct.

19. What are the important characteristics of an underwater compass?

- A** Sufficient battery reserve for the illumination.
- B** Easy-to-read, fluorescent-colored compass rose, a direction finder.
- C** A magnetic housing.
- D** The compass must be easy to attach to the wrist.
- E** He must be easy to tilt.

20. At the buddy check in the water, you note that you draw water through your secondary regulator / octopus. What are you doing?

- A** I am convinced of the correct function of the octopus of my buddy.
- B** Nothing, because it is only the octopus / secondary regulator.
- C** I inform my buddy so he knows.
- D** I break off the dive against my buddy's protest.
- E** I'm stowing him at the back of my jacket, so I do not accidentally use it.



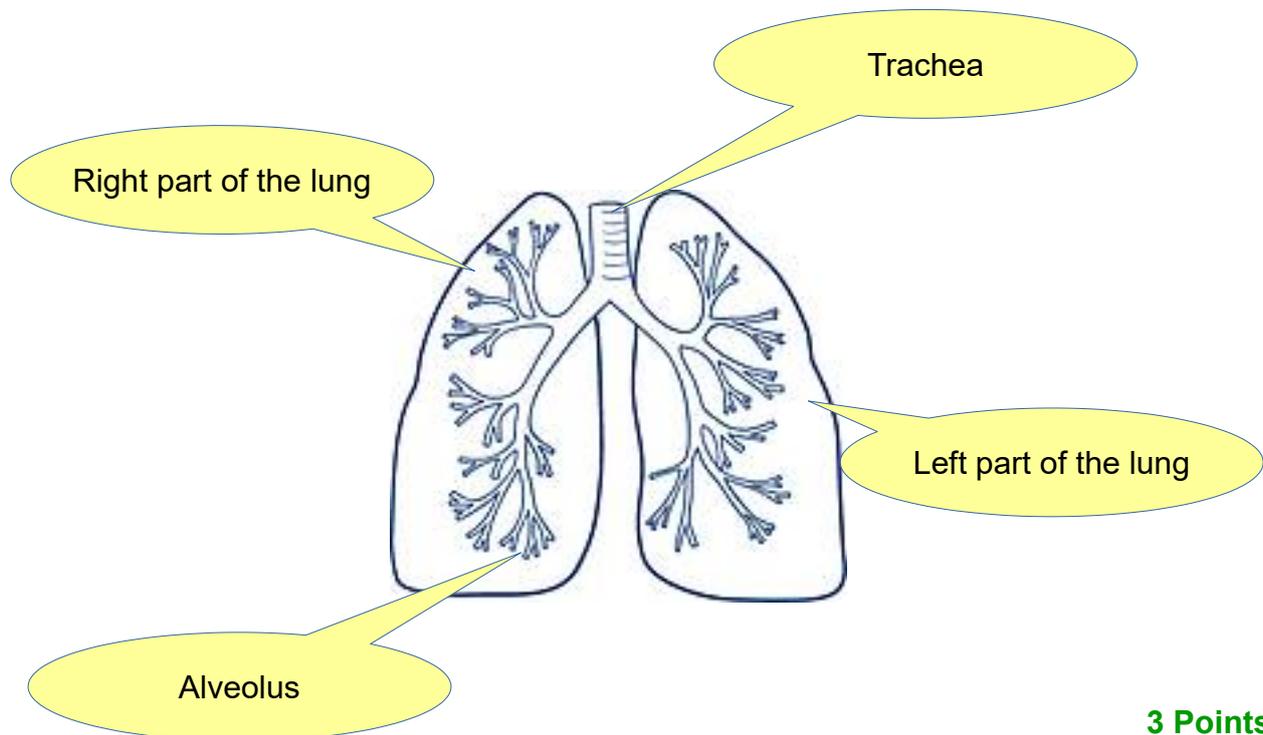
21. What use does the slight "suction" at the second stage with still closed valve of the scuba tank?

- A I check the free movement of the adjustment mechanism
- B I test the fit of the mouthpiece and the integrity of the bite blocks..
- C If I am able to breathe, then I am sure that this will work under water.
- D** If I can pull air, then the membrane is not tight, dirty or damaged.
- E All answers above are correct.

22. Which warning / measuring device is available for the scuba tank pressure?

- A Automatic reserve circuit
- B Acoustic signal transmitter
- C** Pressure gauge
- D Signaling via inhalation resistance
- E Digital depth gauge

23. Sketch the human lung and name the most important parts.



3 Points

24. During the ascending process at 27m depth the pressure gauge of your buddy shows 30bar, two decompression stops are still ahead. What are you doing?

- A** He should have done a better supervision to his pressure and now has to switch to a „low breathing“.
- B** I give him my main regulator and change to the second regulator, so he has the remaining 30 bar as an emergency reserve available.
- C** We skip the decompression stops and start the emergency ascending.
- D** He still breathes from his scuba tank until it's empty, then I give him my octopus.
- E** Put buoy and immediate emergency ascending.

25. As a group leader, you find out that one of your group members has obviously caught a cold.

- A** Nevertheless we dive, because we are already on the dive site.
- B** I advise him voiding the dive. If necessary, I refuse to take him with me.
- C** I give him an extra dose of the drugs before the dive.
- D** In warm waters a cold does not matter - we go diving.
- E** We dive a maximum depth of 10m.

26. How do you behave environmentally friendly while practicing scuba diving?

- A** I only use the designated parking lots at the lake.
- B** I'm picking up the riverbed for better aeration.
- C** I stay away from nesting and spawning grounds.
- D** I harpoon only in approved waters.
- E** I collect even left-over waste and dispose of it properly.

27. After losing a dive buddy, you ascend to the surface. There he is again to be seen at some distance. The diver moves his arms up and down violently.

- A** He obviously looks forward to seeing us again
- B** He had problems with his pressure equalizing
- C** He welcomes well-known divers on the shore.
- D** He is obviously in an emergency condition.
- E** He has lost his weights.

28. After a diving holiday in the sea the equipment should be taken care of?

- A** Store neatly folded in a well-ventilated box.
- B** Allow to dry well in the sun for at least one day.
- C** Rinse with plenty of fresh water and leave to dry in a well-ventilated, shady spot.
- D** All parts of the diving equipment immediately should be put to the workshop.
- E** Air-tight storage of all equipment.

29. How is the ear subdivided?

- A** Outer, middle and inner ear.
- B** Outer ear canal and middle ear.
- C** Auricle, eustachian tube, inner ear.
- D** Auricle, ear canal, eardrum.
- E** Inner and outer ear

30. After a night dive you will ascended and hear engine noise. Then you see a white light that moves. What are you doing?

- A** I mark my position with the clear panning of my dive light. Obviously the boat is coming towards us.
- B** Descend immediately, as the boat is obviously coming towards us.
- C** I watch the boat to see which way it is going.
- D** There is no danger from this boat as it moves away from us, yet I observe the surroundings attentively.
- E** I use my whistle until the boat changes its direction.

Points:..... of 44 points.

Passed:YES..... /NO.....

Oral examination performed:YES..... /NO.....

Date, signature, stamp of the examiner:

.....

Place of exam:.....