



Open Water Instructor Theory Examination

BSAC Diving Examination System Paper Number OWIE-9003 (Egypt)

Student Instructions:

PLEASE speak with the Senior Examiner immediately to discuss possible alternative arrangements if you have a problem with the written format used in this exam.

DO NOT write on this question paper.

This paper is to be returned at the end of the examination.

There are 60 questions in this examination.

Attempt as many questions as possible: Use the supplied answer sheet for your responses.

Marks Available = 60

Time Allowed = One Hour

Examination Accessories:

Pencil, Eraser & Calculator.

BSAC Decompression Tables.

BSAC Nitrox Tables

Diving Physiology

- 1) *It is recommended that a near-drowning victim seeks medical attention even if recovered because:*
 - A. They might develop decompression sickness.
 - B. They might suffer from hyperthermia.
 - C. They might be in shock.
 - D. They might have water in their lungs that affects their ability to breathe.**
 - E. They might get an ear infection.

- 2) *When surface diving with only a snorkel hyperventilation can lead to:*
 - A. Urge to breath in deep water.
 - B. Elevated carbon dioxide levels.
 - C. Shallow water blackout due to reduced carbon dioxide.**
 - D. Carotid sinus reflex.
 - E. None of the above

- 3) *Which of the following is okay for diving:*
 - A. Pregnancy
 - B. Heart disease.
 - C. Lung disease.
 - D. Contact lenses**
 - E. Epilepsy

- 4) *What is the risk of breathing oxygen at partial pressures over 1.6 bar.*
 - A. Convulsions.
 - B. Happiness.
 - C. Central nervous toxicity.
 - D. Central nervous toxicity, convulsions and possible in water black out.**
 - E. The Nitrox is very expensive.

- 5) *After a dive you notice a diver has facial bruises and a red eye.*
 - A. Sinus squeeze.
 - B. Teeth squeeze.
 - C. Mask squeeze.**
 - D. Nitrogen narcosis.
 - E. Carbon monoxide poisoning.

6) When fully breathed out the lungs contain:

- A. No residual air.
- B. Only nitrogen.
- C. Nitrogen and carbon dioxide.
- D. Around 1.5 litres of air.**
- E. Around 5 litres of air.

7) A diver shows dizziness, problem breathing, paralysis and falls on the floor immediately after a dive. What are they suffering from?

- A. Decompression sickness.
- B. Expansion injury.**
- C. Oxygen toxicity.
- D. Tiredness.
- E. Mask squeeze.

8) Excessive blowing during ear clearing may cause:

- A. Ear drum damage.**
- B. Reverse block.
- C. Eardrum elongation.
- D. Sinus squeeze.
- E. Teeth pain.

9) When it is hot you should advise the divers:

- A. Drink lots of water.
- B. Lie in the sun and enjoy it because you are on holiday.
- C. Stay in the shade.
- D. Say nothing special.
- E. Drink lots of water and stay in the shade.**

Decompression

10) Your first dive for 24 hours is at sea level (1000 millibar) to a depth of 43m for a Dive. Time of 15 minutes. What decompression stops if any must they make?

- A: No stops
- B: 1 minute at 6m
- C: **2 minute at 6m**
- D: 1 minute at 9m and 6 minutes at 6m
- E: 1 minute at 9m and 3 minutes at 6m

11) What is the minimum safe time that **BSAC Safe Diving** suggests before flying home?

- A. 3 hours
- B. 1 hour if breathing oxygen.
- C. **24 hours**
- D. When they want to go home.
- E. 48 hours

12) What is the maximum descent rate on the BSAC 88 tables:

- A. 15 metre per minute.
- B. 12 metre per minute.
- C. 25 metre per minute.
- D. **30 metre per minute.**
- E. No maximum rate.

13) After dive 1 to 22 metres for 22 minutes on Table A/1 what is the surfacing code?

- A. A
- B. B
- C. C
- D. **D**
- E. E

14) In Q13 you wait 4 hours and do the same dive again. What is the final surface code?

- A. F
- B. B
- C. **G**
- D. D
- E. E

15) What is not part of the recommendations to treat decompression sickness:

- A. Give oxygen.
- B. Evacuate to medical facility.
- C. Give isotonic fluids.
- D. Lie down.
- E. Keep casualty awake and walking around.**

16) Using the BSAC Nitrox tables if you have a SURFACE CODE of D when using N32% what is the SURFACE INTERVAL to dive again on table A?

- A. 3 hours
- B. 1 hour
- C. 14 hours**
- D. 15 hours
- E. 16 hours

17) Using the BSAC Nitrox tables after a day off from diving you want to do a no stop dive on N32% to 28 metres. What is the time no stop dive time and when do you need to start the ascent?

- A. 34 minutes, 34 minutes
- B. 34 minutes, 32 minutes
- C. 28 minutes, 28 minutes
- D. 28 minutes, 26 minutes**
- E. 39 minutes, 37 minutes

18) Rashes and tingling are signs and symptoms of:

- A: Stress
- B. Decompression sickness.**
- C. Hypoxia.
- D. Oxygen poisoning.
- E. Nitrogen narcosis.

Physics of Diving

19) In the BSAC Nitrox tables what does MOD mean?

- A. Minimum operating depth.
- B. Maximum ocean depth.
- C. **Maximum operating depth.**
- D. Minimum ocean depth.
- E. None of the above.

20) Using the BSAC Nitrox tables what is the CNS uptake at 1.4 bar after 20 minutes?

- A. 32.60
- B. 16.30
- C. 6.70
- D. **13.40**
- E. 16.60

21) Using the BSAC Nitrox tables what is the MOD for Nitrox 32%

- A. 30m
- B. 31m
- C. 32m
- D. **33m**
- E. 34m

22) The air you **breathe out** contains approximately:

- A. 79% nitrogen, 4% oxygen, 17% carbon dioxide.
- B. **79% nitrogen, 17% oxygen, 4% carbon dioxide.**
- C. 79% nitrogen, 17% oxygen, 4% carbon monoxide.
- D. 21% oxygen, 79% nitrogen.
- E. 79% oxygen, 21% nitrogen.

23) The absolute pressure at 30 m is:

- A. 0.4 bar.
- B. **4 bar.**
- C. 40 bar
- D. 400 bar.
- E. 3 bar

24) What is the pO₂ of air at 20 metres.

- A. 0.11 bar
- B. **0.63 bar**
- C. 0.42 bar
- D. 0.21 bar
- E. 1.20 bar

25) Diving with Nitrox what affects the MOD

- A. Cylinder volume
- B. No stop time
- C. Nitrogen narcosis
- D. **Partial pressure of oxygen**
- E. Absolute pressure

26) In comparison to cold air, the atmospheric pressure of warm air is:

- A: **Less, so it rises above the colder air.**
- B: Less, so it sinks below the colder air.
- C: Greater, so it rises above the colder air.
- D: Equal.
- E: Drier.

27) What volume of fresh water weighs 10 Kg?

- A: **10 litres.**
- B: 100 litres.
- C: 1 litre.
- D: 10 ml.
- E: 100 ml

Equipment

28) Which is an essential feature of a buoyancy compensator?

- A: Bright colour.
- B: Chest strap.
- C: Over pressure relief valve.
- D: Rings for attachments.
- E: Pockets.

29) A DIN valve is:

- A. Not used in diving cylinders.
- B. A valve with an opening where the regulator is screwed in.
- C. A valve where a regulator is attached by a yoke.
- D. A valve with an alarm system.
- E. Part of the regulator second stage.

30) The regulator you fit as an AS should be:

- A. On a short hose to keep it compact
- B. Be identical to your main regulator
- C. Your old regulator
- D. Serviced every five years
- E. At least as good as your main regulator

31) When moving from diving in fresh water to salt water with the same equipment divers will need:

- A. More weight because their buoyancy is greater in seawater.
- B. Less weight because seawater is less dense than fresh water.
- C. The same weight as fresh and seawater are the same density.
- D. No weight is needed as the divers will use less gas in warm water.
- E. None of the above is correct.

32) A simple diving compass has:

- A. A needle that points true north
- B. A correction for variation.
- C. A needle that points the direction of travel.
- D. A needle that points to magnetic north
- E. A bezel that works out variation

33) Diving cylinders need to be tested;

- A. Never
- B. Before being filled
- C. When they look old
- D. In accordance with local regulations**
- E. After they have been filled 100 times

34) How much gas is in a 15 litre cylinder at 210 bar.

- A. 1500 litres.
- B. 2100 litres.
- C. 15 litres.
- D. 3150 litres.**
- E. 14 litres.

35) Assuming a SAC of 25 litres per minute (lpm) at the surface what is the gas consumption per minute at 30 m.

- A. 25 lpm.
- B. 50 lpm
- C. 75 lpm.
- D. 100 lpm.**
- E. 125 lpm.

36) What is the minimum size of cylinder for a dive to 30 m for 20 mins with a breathing rate of 25 lpm. You wish to maintain a 70 bar reserve and the cylinder will be filled to 210 bar.

- A. 10 litre
- B. 11 litre
- C. 15 litre**
- D. 12 litre
- E. 18 litre

Diving Techniques

37) *Rescue breaths in the water should be given for a minimum of:*

- A. 1 minute
- B. 2 minutes
- C. 5 minutes
- D. 10 minutes
- E. Not needed

38) *At the end of a drift dive you cannot see the boat. You should:*

- A. Keep next to the reef
- B. Keep all divers together as a group
- C. Send someone to look for the boat.
- D. Try to attract attention by raising DSMBs as high as possible
- E. A, B and D correct.

39) *What is the best way of getting back on a boat with a ladder?*

- A. Reaching the ladder by swimming under the boat.
- B. Surfacing right under the ladder and hold onto it.
- C. Surface in the open sea away from the boat and reef and swim on the surface to the boat.
- D. Surface next to the reef, away from the boat, then swim to the boat on the surface.
- E. Surface next to the reef and get the boat to come close to the reef and pick up the divers.

40) *Which of the following is the most appropriate reason for diving at night?*

- A To see marine life active at night.
- B The water is warmer at night.
- C To test new equipment.
- D Because the opportunity unexpectedly presents itself.
- E To survey a new wreck without distractions.

41) *The best way to make sure all divers are back from a dive is:*

- A. Count them when the boat is back at the dock.
- B. Assume that if a diver is back then their buddy is back.
- C. Count the divers after the last dive.
- D. Count the divers after every dive and make sure you have seen them all.
- E. Ask if everyone is back on the boat.

42) The most suitable entry from a RIB, inflatable or zodiac is a:

- A: Stride entry.
- B: Backward roll.**
- C: Forward roll.
- D: Silent entry.
- E: Kit up in water.

43) The best way to adjust for proper weighting is:

- A. Use 10% of body weight in fresh water and 15% in salt water.
- B. Check for neutral buoyancy in the pool and add 2kgs.
- C. Use the same weight as the last dive.
- D. Check for neutral buoyancy by doing a weight check adjusting the weights as needed ideally with reserve gas in the cylinder.**
- E. Ask the guest what they need.

44) After checking for Danger and Response, what is the next priority for First Aid:

- A. Severe bleeding.
- B. Multiple fractures.
- C. Shock.
- D. Hypothermia.
- E. Airway breathing circulation.**

45) When going night diving you should have:

- A. Gloves to hold onto the coral in a strong current.
- B. An underwater torch and back up torch in case the first fails or is lost.**
- C. A knife to dig out corals
- D. A spare mask strap.
- E. A DSMB.

46) When using Nitrox who is responsible for checking the mix is correct for the dive?

- A. The Dive Guide.
- B. The compressor operator.
- C. The diver about to use the Nitrox.**
- D. The dive centre owner.
- E. The diver's buddy.

Instructional Technique and Management

47) *In case of an accident what should you do?*

- A. Activate the emergency plan and follow each step.
- B. Call the Dive Centre Manager.
- C. Fill in a report.
- D. Record the dive details from the dive computer.
- E. All of the above.**

48) *A good dive leader aims to:*

- A: Bring their buddy back one way or another.
- B: Bring their buddy back only when they both get cold.
- C: Bring their buddy back eventually.
- D: Bring their buddy back smiling and eager for more.**
- E: Bring their buddy back only when they both run short of gas.

49) *When teaching vulnerable people (children or adults with special needs) the instructor will have too:*

- A. Do nothing special.
- B. Conduct the course treating everyone as an adult.
- C. Behave normally as there is no risk when training children.
- D. Get parent or guardian written consent on all documents.**
- E. Leave vulnerable people to look after themselves.

50) *While teaching a group of trainee divers after 30 minutes one of them gives you a 'low on gas' signal. What do you do?*

- A. Give them your AS and continue the dive.
- B. Give them your AS and allow the rest to continue the dive whilst you surface.
- C. Stop the dive and take the group to the surface.
- D. Ignore his signal.
- E. Ascend with the whole group, monitor their gas closely, prepare to give your AS, call the boat on the surface.**

51) *What is the BSAC briefing structure?*

- A. SEEDS**
- B. BWRAF
- C. BAR
- D. REAP
- E. PAVE

52) *What are the Essential Criteria of a practical lesson?*

- A. PAVE
- B. SEEDS
- C. **STEP**
- D. REAP
- E. BWRAF

53) *When teaching a classroom lesson when is it best to ask questions?*

- A. When the students get bored.
- B. Before you start the lesson.
- C. In the summary.
- D. After each bit of important information and in the summary.**
- E. When a student asks a question.

54) *What do you need a visual aid for in a classroom lesson?*

- A. To help you remember what to say.
- B. To show all the most important information as 75% of learning is visual.**
- C. To help the students remember who you are.
- D. To find the exit.
- E. You do not need visual aids for a good classroom lesson.

55) *When teaching a practical lesson it is good to do:*

- A. Everything in one go.
- B. Only demonstrate what to do.
- C. Only tell students what to do.
- D. Whatever you want.
- E. Teach the student by demonstration then let the student mimic you.**

Seamanship & Chartwork

56) *What colour are the sea areas on modern charts used by divers?*

- A: All white.
- B: All blue.
- C: All green.
- D: Marked in blue in the shallows and white in deeper water.**
- E: Marked in white in the shallows and blue in deeper water.

57) *Wave heights will be affected by –*

- A: Distance the wind has been blowing the water.
- B: Strength of the wind.
- C: Time wind has been blowing.
- D: Direction of water flow compared with wind direction.
- E: All of the above.**

58) *What name is given to the period when there is no tidal movement?*

- A: Springs.
- B: Chart datum.
- C: Neaps.
- D: Mean low water neaps.
- E: Slack water.**

59) *If you are standing on a boat facing the front the side to your left is the:*

- A: Port side.**
- B: Starboard side.
- C: Stern.
- D: Bow.
- E: Bilge

60) *For divers, which aspect of the weather has the most frequent consideration for safe diving?*

- A: Wind**
- B: Rain
- C: Sun
- D: Heat
- E: Fog