R1092

Sub. Code
465201

P.G. DIPLOMA EXAMINATION, APRIL – 2024

Second Semester

Scuba Diving

SCUBA DIVING EQUIPMENT AND COMMUNICATION

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective questions by choosing the correct option.

1. What is the maximum depth limit for an Open Water Diving? (CO1, K2)

   (a) 30 feet (9 meters)

   (b) 60 feet (18 meters)

   (c) 100 feet (30 meters

   (d) 130 feet (40 meters)

2. Which term refers to the physiological effect of increased pressure on the body as a diver descends? (CO1, K2)

   (a) Decompression sickness

   (b) Nitrogen narcosis

   (c) Barotrauma

   (d) Hypoxia

3. Which piece of equipment is used to control buoyancy underwater? (CO2, K4)

(a) Dive computer

(b) Regulator

(c) Buoyancy compensator (BCD)

(d) Dive mask

4. What should a diver do if experiencing a free-flowing regulator underwater? (CO2, K4)

(a) Panic and ascend rapidly

(b) Switch to the buddy's regulator

(c) Attempt to fix it underwater

(d) Continue the dive as normal

5. What is the purpose of the "Buddy Check" before a dive? (CO3, K4)

(a) To check the weather conditions

(b) To ensure both divers have the same equipment

(c) To assess the fitness level of the buddy

(d) To verify that each diver's equipment is functioning properly

6. What is the primary function of a dive computer? (CO3, K4)

(a) Measure water temperature

(b) Calculate bottom time and ascent rate

(c) Illuminate the underwater environment

(d) Provide a source of emergency air

7. What is the primary purpose of the octopus regulator? (CO4, K4)

(a) To measure air pressure

(b) To control buoyancy

(c) To provide an alternate air source

(d) To communicate with the surface

8. What is the recommended ascent rate during a safety stop? (CO4, K4)

(a) 30 feet (9 meters) per minute

(b) 60 feet (18 meters) per minute

(c) 10 feet (3 meters) per minute

(d) As fast as the diver is comfortable

9. What does the term "neutral buoyancy" mean in the context of scuba diving? (CO5, K4)

(a) Being positively buoyant

(b) Being negatively buoyant

(c) Achieving a balance between buoyancy and weight

(d) Completely sinking to the bottom

10. What is the recommended procedure if a driver loses visual contact with their buddy underwater? (CO5, K4)

(a) Ascend to the surface immediately

(b) Signal for help using a whistle

(c) Look for the buddy for one minute, then initiate emergency procedures

(d) Continue the dive independently

Part B (5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) What are the effects of increasing pressure? (CO1, K2)

Or

(b) What is buoyancy and how to achieve neutral buoyancy? (CO1, K2)

12. (a) Write about the types of exposure suit with justification for the environment of the dive. (CO2, K4)

Or

(b) Write about the different types of BCD and their purpose. (CO2, K4)

13. (a) Elaborate on BWRAF and explain the importance of the buddy system. (CO3, K4)

Or

(b) What is the general rules to be followed during a dive? (CO3, K4)

14. (a) Write about the motion of water. (CO4, K4)

Or

(b) What is equalization? What are the three steps you should follow if you feel discomfort while descending? (CO4, K4)

15. (a) Explain deep water exit. (CO5, K4)

Or

(b) Write about the importance of dive computers and what is NDL. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each

16. (a) Explain in detail about pressure, volume and density relationship. (CO1, K2)

Or

(b) Elaborate the effects of increasing air density. (CO1, K2)

17. (a) Explain the types of valves and its principle. (CO2, K4)

Or

(b) Write about the working principle of the regulator. (CO2, K4)

18. (a) Write the five steps of Ascending and descending. (CO3, K4)

Or

(b) Explain in detail about pre dive safety check and the importance of dive plan. (CO3, K4)

19. (a) Write in detail about heal loss underwater and what are safety precautions to prevent that. (CO4, K4)

Or

(b) How does water affect light intensity and colour. (CO4, K4)

20. (a) Write about the importance of snorkel and important things to follow while surface snorkeling. (CO5, K4)

Or

(b) What procedures and general recommendations apply to diving with a computer? (CO5, K4)

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R1093

Sub. Code
465202

P.G. DIPLOMA EXAMINATION, APRIL – 2024

Second Semester

Scuba Diving

SCIENCE OF SCUBA DIVING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. It's recommended that you have a complete physical examination every ———————— years. (CO1, K2)

   (a) 5 (b) 4

   (c) 7 (d) 2

2. Before diving, you want to avoid (CO1, K2)

   (a) drugs

   (b) alcohol

   (c) smoking

   (d) all the above

3. Uses for a dive float include (CO2, K4)

   (a) supporting a dive flag

   (b) resting

   (c) assisting another diver

   (d) all the above

4. Reasons for taking an under water light on a day dive include (CO2, K4)

(a) Restoring lost colors

(b) Restore time limit

(c) Unexpected solar eclipse

(d) None of the these

5. If a diver becomes unresponsive underwater, you should (CO3, K4)

(a) bring the diver immediately to the surface and check for breathing

(b) remove the driver's cylinder

(c) remove the regulator

(d) all the above

6. If nitrogen narcosis becomes a problem (CO3, K4)

(a) ascend to a shallower depth

(b) descend slowly to a deeper depth

(c) ascend to a surface

(d) None of the above

7. The recommended general depth and time for a safety stop is (CO4, K4)

(a) 10 metres/35 feet for 2 minutes

(b) 5 metres/15 feet for 3 minutes

(c) 2 metres/6 feet for 20 minutes

(d) 15 metres/40 feet for 30 minutes

8. To get your buddy's attention underwater you can touch your buddy or (CO4, K4)

(a) rap on your cylinder

(b) blow the whistle

(c) pull the flag

(d) None of the above

9. Reasons for keeping a log book (CO5, K4)

(a) Documenting your history as a diver

(b) Recording specific dive site details

(c) Helping you remember your experiences

(d) All the above

10. Symptoms of air include (CO5, K4)

(a) limb and joint pain

(b) cherry red lips/nail beds

(c) bleeding

(d) heart attack

Part B ($5 \times 5 = 25$)

Answer **all** the questions not more than 500 words each.

11. (a) Write short notes on rest and recuperation between dives. (CO1, K2)

Or

(b) What are the general health fitness requirements for diving? (CO1, K2)

12. (a) Write a short note on the use of Navigation slates. (CO2, K4)

Or

(b) Explain the necessity of different safety gears for a dive and its importance. (CO2, K4)

13. (a) Write in general about Dive Equipment maintenance and why is it important. (CO3, K4)

Or

(b) How is NDL and DCS related? Explain. (CO3, K4)

14. (a) Explain the buddy system and predive safety check. (CO4, K4)

Or

(b) Justify the significance of safety stops by describing their underlying premise. (CO4, K4)

15. (a) Write the three primary reasons for keeping a log book. (CO5, K4)

Or

(b) What is the FIRST AID for Decompression sickness? (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Why do divers need to maintain a balanced diet? (CO1, K2)

Or

(b) Write in elaborate about the health requirements and fitness required for diving. (CO1, K2)

17. (a) Provide a comprehensive explanation of enriched air and its uses. (CO2, K4)

Or

(b) Write in elaborate about the surface marker buoys and their purpose. (CO2, K4)

18. (a) Elaborate on nitrogen narcosis and oxygen toxicity in depth. (CO3, K4)

Or

(b) Explain air pressure injuries and preventing technique. (CO3, K4)

19. (a) Explain in detail about do's and don'ts on a boat dive. (CO4, K4)

Or

(b) Explain the concept behind Safety Stop. (CO4, K4)

20. (a) Write in detail about problem management underwater. (CO5, K4)

Or

(b) How to prevent Hypothermia during diving? (CO5, K4)

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