MSM Quiz 1d
Revised 07/00

1) What is normal operating salinity for a fish only system?
   a) 102.2
   b) 10.22
   c) 1.022
   d) .1022

2) What is normal operating pH of a marine system?
   a) 8.0-8.5
   b) 7.5-8.0
   c) 7.0-7.5
   d) 6.5-7.0

3) What is Cryptocaryon?
   a) Virus
   b) Bacteria
   c) Parasite
   d) A dead fish

4) Normal operating temperature of a fish only system is?
   a) 68-84° F
   b) 76-86° F
   c) 86-96° F
   d) 76-80° F

5) Normal operating temperature for a reef system is?
   a) 74-78° F
   b) 78-84° F
   c) 70-80° F
   d) 76-80° F

6) What does the term “photoperiod” mean?
   a) The hour you have photography class
   b) How long it takes to take a picture
   c) Shutter speed of a camera
   d) The day/night cycle of an artificial light source

7) What is a circadian rhythm?
   a) Sleep and awake cycles
   b) Types of drum beats.
   c) History that repeats itself.
   d) Electrical pulses emitted by frightened animals.

8) What is O_3?
   a) Liquid oxygen
   b) Ozone
   c) Stabilized oxygen
   d) None of the above

9) What is NH_4^+?
   a) Nitrous Hydrohydride
   b) Hydronitrohydride
   c) Ammonium
   d) Ammonia

10) What is NO_2^-?
   a) Nitrite
   b) Nitrogen gas
   c) Nitrate
   d) Nitrous oxide

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12) What is N_2?
   a) Nitrite
   b) Nitrogen gas
   c) Nitrate
   d) Nitrous oxide

13) What is the correct order of chemical decomposition?
   a) $N_2 \rightarrow NO_2^- \rightarrow NO_3^- \rightarrow NH_4^+$
   b) $NH_4^+ \rightarrow NO_2^- \rightarrow NO_3^- \rightarrow N_2$
   c) $NO_3^- \rightarrow NO_2^- \rightarrow N_2$
   d) $N_2 \rightarrow NO_2^- \rightarrow NO_3^- \rightarrow NH_4^+$

14) The proper term used to describe the above reaction is?
   a) Photophosforalation
   b) The Krebs cycle
   c) Anaerobic glycolosis
   d) Nitrogen cycle

15) What is the order of toxicity for the above compounds from most to least?
   a) N_2, NO_3^-, NO_2^-, NH_4^+
   b) NO_3^-, NH_4^+, N_2, NO_2^-
   c) NO_3^-, N_2, NO_2^-, NH_4^+
   d) NH_4^+, NO_2^-, NO_3^-, N_2

The following five questions will refer to the following reaction
$NH_4^+ \rightarrow NO_2^- \rightarrow NO_3^-$

16) The key components to the above reaction are?
   a) Nitrosomonas bacteria
   b) Nitrobacter
   c) Oxygen
   d) All the above

17) The above reaction is termed?
   a) Anaerobic
   b) Aerobic
   c) Anoxic
   d) Ambivalent

18) The above reaction, if incomplete, is responsible for what in a new system?
   a) Death or disease to inhabitants
   b) Cloudy water
   c) Toxic conditions
   d) All the above

19) The term applied to the above reaction if incomplete?
   a) Liquefaction
   b) New tank syndrome
   c) Nitrification
   d) Anaerobic fermentation

20) What can be done to prevent this “problem” in a new system
   a) Time
   b) Seeded media added to the system
   c) Add Kent Marines “New system” product
   d) Both A & B

The following two questions refer to this reaction
$NO_3^- \rightarrow N_2$

21) What pH is required for the above reaction to take place?
   a) ~9.0
   b) ~8.0
   c) ~6.0
   d) ~4.0

22) What conditions allow the reaction to occur?
   a) Aerobic
   b) Anaerobic
   c) Anemic
   d) Ambivalent

23) What principles allow protein skimmers, foam fractionators, to work?
   a) Osmotic pressure
   b) High pH
   c) Hydrophobic molecules
   d) All the above

24) Surfactants are?
   a) Hydrophilic
   b) Usually protein wastes
   c) Easily broken down
   d) Not a problem in marine systems

25) Protein skimmers do what to a system?
   a) Remove organics
   b) Eliminate “ick” from a system
   c) Increase dissolved O_2
   d) Both a & c

26) What does the abbreviation ORP stand for?
   a) Overly Redundant Performance
   b) Oxidative Reaction Production
   c) Of Real Presence
   d) Oxidation Reduction Potential

27) Alkalinity is defined as what?
   a) pH level
   b) Ability to resist changes in pH
   c) Acidity
   d) All of the above

28) A desired Alkalinity or dKH in a reef system is.
   a) 2-4
   b) 4-6
   c) 7-9
   d) 9-14

29) Natural Ca^{+}, Calcium, levels in tropical seas are.
   a) 200 ppm
   b) 300 ppm
   c) 400 ppm
   d) >400 ppm

30) The solution to pollution is
   a) confusion c) emulsion
   b) dilution d) diffusion

31) pH is what?
   a) Protein hydrate
   b) A measure of the power of the hydronium ion
   c) Phosphate
   d) Potassium Hydrochloride

32) What method(s) do we use to reduce excess algae in a system
   a) Use of R/O water
   b) Quality foods in minimum quantities
   c) Foam fractionating
   d) All the above

33) What is R/O water
   a) Synthetic sea water
   b) Sterile water
   c) Water with virtually undetectable levels of organics
   d) Water with virtually undetectable levels of inorganics

34) GAC is an acronym for what?
   a) Granular activated carbon
   b) Good and clean
   c) Geological atmospheric corporation
   d) Gradient approaching critical

35) What is the correct order of biological classification used today?
   a) Species, order, genus, class, family
   b) Phylum, order, genus, species
   c) Kingdom, phylum, class, order, family, genus, species
   d) Order, kingdom, phylum, class, family, species, genus

36) What does a Calcium reactor do?
   a) Allows calcium to react in the system
   b) Causes calcium to precipitate out of the system
   c) Dissolves calcium media releasing it into the system.
   d) Produces Calcium citrate

37) What are the trace elements we replace in a reef system in addition to regular water changes?
   a) PO_4^{-3}
   b) Sr & I
   c) Cu
   d) All the above

38) What type of cleaners can you use to clean a marine system?
   a) Biodegradables
   b) Tilex
   c) Ivory
   d) None of the above

39) What is a critical difference between a marine fish only and reef system
   a) Temperature
   b) Specific gravity
   c) Use of chemicals
   d) Nitrogen cycle

40) What causes algae problems in any system
   a) Primary nutrients
   b) Dissolved inorganics
   c) Temperature
   d) All the above

41) What is typical bulb life in an advanced reef system?
   a) 6-8 months (2200-2900 hrs)
   b) 10-12 months (3600-4300 hrs)
   c) 12-18 months (4300-6500 hrs)
   d) 18-24 months (6500-8600 hrs)

42) *Acropora* corals grow best
   a) when given intense light
   b) if they are feed regularly
   c) when placed near the bottom
   d) all of the above

43) What is a limpet?
   a) a very flexible soft coral
   b) a crab in the soft shell stage
   c) a primitive gastropod
   d) a type of clam

44) Why does a territorial fish display aggressive behavior?
   a) it is protecting its food supply
   b) it is guarding its eggs
   c) it is maintaining possession of a choice shelter
   d) all of the above

45) Anemones often lose their color and waste away in aquariums. What is necessary to prevent this loss?
   a) intense reef specific lighting
   b) a feeding of shrimp and fish once a week or so
   c) a normal to elevated calcium content in the systems water
   d) all of the above

46) How many fins does the “typical” fish have?
   a) 5: the dorsal, caudal, anal, pelvic, and pectoral
   b) 8: the spiny dorsal, soft dorsal, caudal, anal, 2 pelvic, 2 pectoral
   c) 7: the dorsal, caudal, anal, 2 pelvic, 2 pectoral
   d) this is a trick question because there is no “typical” fish.

47) What coral has long “sweeper tentacles” and attacks nearby corals?
   a) Plerogyra spp.
   b) sea fan gorgonian
   c) Discosoma spp.
   d) Montipora spp.

48) Which fish has three “sexes?” (two types of males)
   a) the orchid dottyback
   b) the queen triggerfish
   c) the bluehead wrasse
   d) the French angelfish

49) Which oceanic area has the greatest natural salinity?
   a) Caribbean
   b) Indo-Pacific
   c) Red Sea
   d) Gulf of Mexico

50) Why is the sea blue?
   a) Seawater transmits blue light
   b) Centuries of pollution have made it sad
   c) Blue light is absorbed by seawater
   d) Because of reflection and back scattering