

Aquarium Management CDE
April 22, 2008

1. The fin most commonly mistaken as a "tail" is the ____
 - A. pelvic fin
 - B. Caudal fins
 - C. anal fin
 - D. spiny rays
2. Boney fish belong to which class
 - A. osteichthyes
 - B. acanthodians
 - C. chondrichthyes
 - D. ostracoderms
3. Fish scales are actually ____
 - A. a second skin
 - B. a slimy mucus
 - C. made of the same material as your finger nails
 - D. thin bone plates
4. Fish with modified swim bladders that allow them to absorb atmospheric oxygen are more commonly found in ____
 - A. rivers
 - B. oxygen rich lakes
 - C. water with low amounts of oxygen
 - D. all the same places as normal fish
5. A fast-moving fish will more likely have an over developed ____
 - A. pelvic fin
 - B. swim bladder
 - C. anal fin
 - D. caudal fin
6. Lateral line disease targets the neuromast cells. This will reduce the fish's ability to react to ____
 - A. changes in water pressure
 - B. sound
 - C. temperature
 - D. A, B, and C
7. Fish found in very low light are most likely to have large ____
 - A. barbells
 - B. anal fin
 - C. swim bladder
 - D. kidneys
8. Ich is a very common parasitic disease. Its most common symptom is ____
 - A. black spots
 - B. white "fuzzy" spots
 - C. swimming in circles
 - D. bleeding
9. A fish that is attempting to scratch itself against an object in the tank or is moving its gills rapidly which could be described as "panting" is most likely suffering from ____
 - A. white spot disease
 - B. slime disease
 - C. a fluke infection
 - D. white fungus growth
10. Some species of cichlids are mouth-brooders. During this time it is common for a parent to ____
 - A. build a nest
 - B. ignore other fish in the tank
 - C. not eat for up to two weeks
 - D. swim in large circles around the tank
11. In ovoviviparous fish, the fry are nourished by ____
 - A. blood from the female
 - B. a yolk sac
 - C. algae
 - D. plankton
12. To stimulate breeding in live-bearing fish one should ____
 - A. raise the tank temperature a couple degrees
 - B. chill the tank at least five degrees
 - C. shut off all filters
 - D. introduce other new fish to the tank
13. Mouth fungus is a misleading name for the disease because ____
 - A. it only affects the tail of the fish
 - B. it can affect any part of the fish
 - C. it is caused by bacteria
 - D. it is caused by a fluke worm
14. In general, when feeding fish its best to ____
 - A. feed the same kind of food each time
 - B. feed only flake food
 - C. feed the most expensive food that you can afford
 - D. only give the fish what they will eat in 3-5 minutes
15. The guideline for stocking a freshwater aquarium with fish is
 - A. 1 inch of fish for every gallon of water
 - B. 1 inch of fish for every foot of tank length
 - C. one inch of fish for every 48 square inches of surface area of the tank
 - D. 1 inch of fish for every 30 square inches of surface area in a tank
16. Air pumps in a tank serve to ____
 - A. introduce oxygen and disperse carbon dioxide
 - B. introduce carbon dioxide and disperse oxygen
 - C. pump in algae killing bubbles
 - D. provide plants with oxygen

17. The purpose of filtration is primarily to ___
 A. oxygenate the water
 B. remove solid waste and uneaten food
 C. remove algae
 D. feed important plants
18. The purpose of activated charcoal is to ___
 A. feed plants
 B. absorb minerals and chemicals
 C. trap food particles
 D. a, b, c
19. Ammonia and nitrates are harmful waste chemicals in an aquarium. Identify the three most important sources of these wastes.
 A. dirty filters, over feeding, over populated tank
 B. dirty filter, too many plants or algae, sick fish
 C. failed to perform a water change, sick fish, over populated
 D. over feeding, increase in waste, lights on too long
20. Neutral pH is ___
 A. 8.0
 B. 1.0
 C. 14.0
 D. 7.0
21. Three ways to remove chlorine from tapwater is___
 A. aerate the water, use a nitrogen sponge, use chemical dechlorinator
 B. aerate water, chemical dechlorinator, and calcium chips
 C. aerate water, chemical dechlorinator, or charcoal filter
 D. all work equally well
22. The specific gravity of aquarium saltwater is most often between___
 A. 1.9- 2.0
 B. 1.02- 1.026
 C. 26-31
 D. 10.26- 10.31
23. The guideline for selecting a heater for an aquarium is ___
 A. 10 watts per 1.5 gallons
 B. 10 watts per 1 gallon
 C. 20 watts per 1.5 gallons
 D. 20 watts per 1 gallon
24. The path of conversion of nitrogen based waste is___
 A. nitrate to nitrite to ammonia
 B. nitrite to nitrate to ammonia
 C. ammonia to nitrate to nitrite
 D. nitrate to ammonia to nitrite
25. The two most important considerations to take into account when purchasing an aquarium are___
 A. size of fish wanted and their food types
 B. plants and lighting
 C. light and fish wanted to keep
 D. budget and size of fish wanted
26. About how many species of fish are there in the world
 A. 10,000
 B. 100,000
 C. 50,000
 D. more than 200,000
27. Which culture is given credit as the first "fish keeper" hobbyists
 A. Chinese
 B. Europeans
 C. Africans
 D. South Americans
28. Why should an aquarium NOT be placed in front of a window
 A. may attract birds
 B. may cause excessive algae growth
 C. most fish don't like sunlight
 D. sunlight damages fish scales
29. About how much does water weigh per gallon
 A. 5.2 lbs
 B. 1 lb
 C. 10.5 lbs
 D. 8.4 lbs
30. A good average temperature for aquariums is
 A. 65 F
 B. 80 F
 C. 75 F
 D. not all that important to know
31. Since surface area is an important consideration in determining the number of fish an aquarium can house. It is better to have a(n)
 A. tank is taller than it is longer
 B. deeper than it is wider
 C. longer than it is tall
 D. makes no Difference
32. Glass is a better choice of materials for an aquarium for the beginner than acrylic because
 A. it does not scratch easily
 B. it is cheaper
 C. it is lighter
 D. A and B

33. Fish bowls are rarely a good choice to keep fish because
- they have poor surface to depth ratios
 - too small of a space
 - inhumane way for a fish to spend its whole life
 - all of the choices are correct
34. The hood on a tank serves to
- keep fish in
 - is a state law requirement
 - traps oxygen in the tank
 - are included in the purchase of the tank
35. Two advantages of keeping live plants in your aquarium are
- they always have snails with them and they are attractive to look at
 - they absorb carbon dioxide and release oxygen
 - they absorb oxygen and release nitrogen
 - they absorb nitrogen and release carbon dioxide
36. Never use soap or other cleaning agents on an aquarium because
- they will leave dangerous residues
 - they may scratch the glass
 - they will make foam bubbles when fish are put in
 - they will bleach the plants
37. Storing tap water for at least 24 hours is important because
- it allows it to release all its nitrates
 - changes its pH to neutral
 - most minerals and chlorine have broken down and dissipated
 - important proteins fish need are developed
38. The best way to determine if your tap water contains chloramine is to
- buy an expensive test kit
 - taste the water for a "bleach" flavor
 - test the pH
 - ask the water department
39. A "cycled" aquarium means
- water is moving in a circle around the tank
 - there is a fully developed nitrogen cycle established for processing waste
 - there is a fully developed water cycle
 - the pH is finally right in the tank
40. The three most important things to look for in selecting a fish from a store is
- it's the biggest one in the tank, is a male and is actively swimming
 - is actively swimming, accepts food quickly, and is free of fungus or other visual defects
 - is fungus free, not too expensive and is a male
 - accepts food, has clear eyes, and is already pregnant
41. Floating your new fish sealed in the bag it came with in your aquarium allows for it to
- slowly match the temperature of your aquarium
 - match your aquarium pH
 - get used to the other fish
 - make sure it is disease free
42. It is important to vacuum out waste and uneaten food otherwise the waste will
- slow algae growth
 - fish will more likely lay more eggs
 - cause a buildup of ammonia
 - slow plant growth
43. Excessive algae growth may be a symptom of
- too many nitrates in the water
 - too low of pH
 - lights on too long
 - A and C
44. An easy way to maintain water quality is with water changes. About what percentage should be changed each week
- about half
 - $\frac{3}{4}$ of the total tank volume
 - 10-20 %
 - never more than 5%
45. Earthworms are an excellent live food source for many fish because
- they are rich in proteins and are cheap to buy
 - all fish want to kill their food
 - the mucus of the worms is good for the fish slime coat
 - worms meet all fishes diet needs
46. Koi differ from goldfish in that
- only koi can be white in color
 - koi grow much larger than goldfish
 - goldfish are the only ones native to Asia
 - goldfish are much harder than koi

47. Although there is no biological separation among the varieties of goldfish, breeders have created strains with discernable characteristics. Which of the following is not a strain of goldfish
- jikin
 - fantail
 - lion head
 - zebra tail
48. The most important nutrient in a koi's diet is
- fats
 - carbohydrates
 - proteins
 - vegetables
49. Community tanks can best be described as
- a tank shared by the whole neighborhood
 - a tank stocked by a diverse group of fish that all get along with each other
 - a tank with fish and plants
 - a tank stocked with aggressive fish
50. Best advice to a first time fish buyer is
- plan ahead and know all about the fish you are looking for
 - go on which fish is prettiest
 - only buy fish that are big
 - only buy fish that are small
51. Top-water fish are
- found only at the top of the tank
 - are all Asian fish
 - are most often found near the top of the tank
 - are most often fast swimmers
52. Mid-water fish include
- guppies, goldfish and sharks
 - tetra, angles and guppies
 - barbs, angles and red-tailed sharks
 - barbs, tetra, and glass catfish
53. The arowana should be left to the expert keepers because
- its very large adult size
 - predatory nature
 - its leaping ability
 - all are correct
54. The purpose of a hospital tank is to
- isolate a sick or injured fish for treatment
 - quarantine a new fish to protect against incoming diseases
 - A and B
 - none are correct
55. A sudden loss of appetite is a likely indication that
- the fish does not want your food type
 - the fish needs more light
 - the fish needs more plastic plants
 - none are correct
56. It is important for new fish keepers to use commercially prepared disease treatments when facing a disease in the tank because
- many of the medicines need very precise doses
 - commercial remedies are often less expensive than home-made ones
 - only commercially prepared medicines are legal
57. Culling is an important part of fish husbandry. The most important considerations in selecting fish to cull are
- deformities
 - poor coloration patterns
 - undersized
 - all examples should be culled
58. Infusoria is the food of choice for
- live-bearer fry
 - adult cichlids
 - many egg-layer fry
 - most plant eaters
59. Baby brine shrimp are often needed by many predatory fry as they become juveniles because
- it promotes faster culling
 - helps with tooth development
 - feeds the urge to kill food
 - improves coloration
60. Many people believe that freshwater fish are easier to keep than saltwater fish because
- freshwater fish can tolerate drastic changes in a tank better than saltwater
 - freshwater fish eat more different kinds of foods
 - saltwater fish must all be kept in larger tanks
 - saltwater fish get diseases more often
61. When replacing evaporated water from a marine aquarium you should only use freshwater because
- it is cheaper than saltwater
 - over time the fish need less salt
 - salt does not evaporate so it is still in the tank
 - the pH will change too much if you use saltwater
62. The ideal range for pH of a marine tank is
- 7.0
 - 8.3
 - 9.5
 - does not matter that much
63. Protein skimmers work by
- making lots of foam
 - causing proteins to sink to the bottom of the tube
 - surface tension on bubbles attracting proteins and floating them to the top of the tube
 - trapping waste particles in a foam pad

64. Few marine hobbyists keep plants in their tanks because
- most don't like plants
 - the plants grow too fast in marine tanks
 - plants cloud saltwater
 - there are few plants that can tolerate saltwater
65. Live rock is
- calcium rock covered with sponges, algae and other living creatures
 - the shells of once living corals
 - shells inhabited by hermit crabs
 - a common name for corals
66. A marine aquarium is said to be "cycled" when
- when at least two months of gone by since you set up your tank
 - when the nitrogen cycle is fully functional
 - when the pH stops rapidly changing
 - when you add your first fish
67. Two ways to speed up the aquarium maturation process are
- add fish on the first day and add water from someone else's tank
 - add commercially prepared bacterial solutions and a fish on the first day
 - add commercially prepared bacteria and water from someone else's tank
 - there is no way to rush this process
68. Adding a territorial fish such as a damsel first makes sense because
- it allows that fish to stake out its turf
 - damsels make little waste so it won't interfere with adding more fish later
 - territorial fish don't mind being alone
 - it does not make sense to add a territorial fish before other fish are added
69. Two keys for selecting a fish for beginners is
- color and hardiness
 - tolerance for the fish you already have and hardiness
 - cost and country of origin
 - ease of reproduction and color
70. In selecting a marine fish at the store remember to
- insist that you see it eat
 - that the fish is free of cuts or other damage
 - is actively swimming
 - all are required
71. The typical temperature of a reef tank should be
- 70 F
 - 75F
 - 80 F
 - 85+ F
72. There is a large number of species of saltwater fish that the beginner should avoid. All of the following are good reasons except
- not tolerant of poor water quality
 - have special diet needs.
 - prone to diseases
 - all are good reasons
73. Doing a water change is different than replacing evaporated water by
- you must use new saltwater rather than freshwater
 - it usually involves less water in a water change than a top-off
 - waste is also removed in a water change
 - A and C
74. It is usually fine to buy a sea star that is missing a leg but not one
- with other sorts of damage or growths
 - missing two legs
 - that will change your pH
 - B and C are correct
75. Tridacna clams feed mostly by
- eating fish
 - by photosynthesis with algae in their tissues
 - filter feeding
 - the same flakes as the fish

Aquarium Management CDE
Written Test Answers

1. B,
2. A,
3. D,
4. C,
5. D,
6. D,
7. A,
8. B,
9. C,
10. C
11. B,
12. A,
13. C,
14. D,
15. D,
16. A,
17. B,
18. B,
19. A,
20. D
21. C,
22. B,
23. A,
24. C,
25. D,
26. D,
27. A,
28. B,
29. D,
30. C
31. C,
32. D,
33. D,
34. A,
35. B,
36. A,
37. C,
38. D,
39. B,
40. B
41. A,
42. C,
43. D,
44. C,
45. A,
46. B,
47. D,
48. C,
49. B,
50. A
51. C,
52. D,
53. D,
54. C,
55. D,
56. A,
57. D,
58. C,

59. B,
60. A
61. C,
62. B,
63. C,
64. D,
65. A,
66. B,
67. C,
68. D,
69. B,
70. D
71. B,
72. D,
73. D,
74. A
75. B

State FFA Aquarium Management Written Test 2007

1. Class Osteichthyes consists of two subclasses what are they?
 - A. Sarcopterygii and Chondrichthyes
 - B. Actinopterygii and Sarcopterygii
 - C. Ostracoderms and Placoderms
 - D. Fish and Jawless Fish

2. Which statement is true of fish?
 - A. Their are more fish species on the earth than any other animal
 - B. Fish are the only cold blooded vertebrates
 - C. Fish are the most numerous vertebrates
 - D. The first fish evolved 100 million years ago

3. The four types of scales of modern fish are?
 - A. smooth, slimy, reflective, and rough
 - B. cycloid, placoid, rhomboid, and thromboid
 - C. head, thorax, abdomen, and fin
 - D. ctenoid, cycloid, gamoid, and placoid

4. The tail fin is most commonly referred to as
 - A. Anal fin
 - B. Adipose fin
 - C. Pectoral fin
 - D. Caudal fin

5. True or False oxygen and carbon dioxide are exchanged at the gill filaments when fish breathe?
 - A. True
 - B. False

6. Freshwater fish have no need to drink because
 - A. Their kidneys pull water through the epidermis
 - B. Their body salts are in higher concentration than the salt in the water
 - C. They get water when they breath
 - D. They are completely submersed in water

7. What is the function of the labyrinthine chamber in Anabantoid Fish?
 - A. It allows for absorption of atmospheric oxygen when they inhale air at the surface
 - B. It enables fish to maintain a particular depth
 - C. It allows Parrot fish to sleep without being smelled by predators
 - D. Equalizes osmotic changes in the fish

8. A fish heart consists of how many chambers?
 - A. One
 - B. Two
 - C. Three
 - D. Four

9. What are the pressure-sensitive cells contained in tubes along the lateral line called?
- A. Nematocysts
 - B. Neurocyts
 - C. Neuromasts
 - D. Labyrinthine chambers
10. What is the proper classification of fish?
- A. Kingdom-Animalia, Phylum-Mollusca, Superclass- Pisces
 - B. Kingdom-Animalia, Phylum-Chordata, Superclass-Agnatha
 - C. Kingdom-Animalia, Phylum-Vertebrata, Superclass-Pisces
 - D. Kingdom-Animalia, Phylum-Chordata, Superclass-Pisces
11. What Family do Tetras belong to?
- A. Scatophagidae
 - B. Toxotidae
 - C. Anablepidae
 - D. Characidae
12. Members of the Family Cyprinidae are commonly referred to as
- A. Butterfly fish and Angelfish
 - B. Catfish
 - C. Barbs
 - D. Carp and Minnows
13. Which of the following fish are members of the family Syngnathidae?
- A. Clown Fish
 - B. Lion Fish
 - C. Sea Horses
 - D. Wrasses
14. To determine the number of fish that can be put in a tank one should
- A. Add one inch of fish per gallon
 - B. Add one inch of fish per 10 square inches of surface area
 - C. Add one gram of fish per 10 square inches of surface area
 - D. Add one inch of fish for every 2 gallons of water
15. What are the three types of filtration?
- A. Mechanical, chemical, and biological
 - B. Wet dry, under gravel, and fluidized bed filter
 - C. There are only two mechanical and biological
 - D. None of the above
16. The bacterial process that converts Ammonia into Nitrates is called
- A. Denitrification
 - B. Decomposition
 - C. Nitrification
 - D. Nitrobacter

17. The bacteria involved in the Nitrification process are
- A. Nitrobacter
 - B. Nitrosomonas
 - C. Mycobacterium
 - D. Both A and B
18. The rule of thumb to find the appropriate size heater for your tank is
- A. One Watt of power per gallon of water
 - B. Five Watts of power per gallon
 - C. 10 Watts of power for every one and a half gallons of water
 - D. 15 Watts of power for every 30 gallons of water
19. A Hydrometer measures what in a marine aquarium?
- A. Temperature of the water
 - B. Density of the amount of salt in the water
 - C. Conductivity of the free floating ions in the water
 - D. Water Hardness
20. Plants use light energy to convert carbon dioxide into oxygen what is this process called?
- A. Mineralization
 - B. Oxidation Reduction
 - C. Nitrification
 - D. Photosynthesis
21. Which of these animals does not feed on plankton?
- A. Brittle Star
 - B. Tubeworms
 - C. Bivalves (clams)
 - D. Some species of Sea Cucumbers (Sea Apple)
22. Which fish disease is caused by bacteria?
- A. White spot or "Ich"
 - B. Velvet Disease
 - C. Tuberculosis
 - D. Flukes
23. What is one way to help keep egg-laying parent fish from eating their eggs?
- A. Place one or two layers of glass marbles on the floor of the aquarium
 - B. Raise the tank temperature to get the eggs to hatch faster
 - C. Place a rubber shark on the bottom of the tank to scare the parents
 - D. Raise the pH to decrease the parents appetite
24. Which of the following are Nest-Building fish?
- A. Betta or Siamese fighting fish
 - B. Guppies
 - C. Gouramis
 - D. Both A and C

25. Sea horses and pipefish:
A - are easy to keep
B - are very aggressive
C - are great for a community tank
D - are difficult to feed and not recommended for community tank
26. What size heater does a 30-gallon tank require for tropical fish?
A - 50 watt
B - 75 watt
C - 100 watt
D - 150 watt
E - 200 watt
27. Optimal placement for a heater is far from the filter.
A. TRUE B. FALSE
28. The salinity range of tropical marine aquarium is best maintained at
A - 1.020-1.025
B - 1.021-1.024
C - 1.023-1.024
D - 1.018 - 1.026
29. What part of your aquarium setup can be especially dangerous to you if mishandled?
A - Undergravel filter
B - Thermometer
C - Heater
D - Driftwood
E - Gravel
30. How many kinds of swim bladders are there?
A - 1
B - 2
C - 3
D - 5
E - 7
31. Taxonomy is the study of fish diet.
A. TRUE B. FALSE
32. The nares helps the fish
A - see
B - hear
C - smell
D - taste
E - detect differences in depth
33. The fish is a
A - Eftiform
B - Chordate
C - Hirsinate
D - Galimaufry
E - Echinoderm

34. An aquarium should get ____ hours of light per day?
A – 3 to 6
B – 6 to 8
C – 8 to 10
D – 10 to 15
E – 15 to 24
35. Common earthworms are a good food for tropical fish, if they haven't been exposed to pesticides or weed killers.
A. TRUE B. FALSE
36. Blue-Green Algae may produce toxins that poison fish.
A. TRUE B. FALSE
37. A normal weekly water change involves replacing what percentage of water in a tank?
A – 5%
B – 20%
C – 50%
D – 70%
E – 90%
38. In “New Tank Syndrome”
A – ammonia, nitrite, and nitrate levels all climb rapidly
B – ammonia and nitrite levels remain steady, while nitrate level builds rapidly
C – ammonia and nitrite levels climb rapidly, while nitrate remains low
39. Canned Tuna is an excellent dietary supplement for tropical fish.
A. TRUE B. FALSE
40. If your tank does not have an undergravel filter, how many days you should wait before introducing fish?
A- 3 – 5
B – 5 - 10
C- 10 – 14
D – 20 – 30
E – 30 – 60
41. Which of the following is not a live food for aquarium fish:
A – Bloodworms
B – Drosophila
C – Daphnia
D – Hyraxes
E – Atremia
42. To tell the difference between a carp and a goldfish, you look at the:
A- Dorsal fin
B – Tail
C – Operculum
D – Scales

43. The caudal peduncle is attached to the
A – dorsal fin
B – tail fin
C – pectoral fin
44. Killifish are not native to:
A- Africa
B – Asia
C – Australia
D – North America
E – South America
45. When your marine tank loses water due to evaporation you need to add:
A – aged fresh water
B – newly mixed salt water
C – ½ strength sea water
D – all of the above
E – none of the above
46. Rasbora heteromorpha are best kept singly or in pairs, since they are aggressive to other fish.
A. TRUE B. FALSE
47. Clownfish are very popular. When kept with anemones, they are:
A – recommended for beginners
B – not recommended for beginners
C – best kept without other fish
48. One of the following species is a good community fish for a 29-gallon aquarium:
A - Barbus schwanefeldi
B - Barbus conchonius
C – Gyriinocheilus aymonieri
D – Epalzeorhynchus bicolor
E – Astronotus ocellatus
49. When you first set up a new marine tank, you can add fish after:
A – 1 week
B – 3 weeks
C – 5 weeks
D – 7 weeks
E – there is a vigorous growth of red algae
50. The neon tetra can tolerate a wide range of temperatures.
A. TRUE B. FALSE
51. Parasites, bacteria, and viruses are present in all aquariums.
A. TRUE B. FALSE
52. The disease “Velvet” is caused by a virus.
A. TRUE B. FALSE

53. Livebearing fish
- A – Live in both fresh and salt water
 - B – Live only in fresh water
 - C – Live only in salt water
 - D – Are all closely related to killifish
 - E - Do not grow over 2” in length
54. When you buy new fish for your tank, you should
- A – place them in the tank as quickly as possible, right out of the bag
 - B – allow the bag to float in the aquarium for a few minutes before releasing the fish
 - C – let the bag sit outside the aquarium for an hour before adding the fish to the tank
55. 55) Swimming upside down, turning somersaults
- A Fish Pox -
 - B Velvet
 - C Ich
 - D Fish Pox
 - E Swim bladder disease
56. A fish that is viviparous is:
- A – a livebearer
 - B – a predator
 - C - diseased
 - D – native to bogs
 - E – a specialized snail eater
57. Roe is:
- A – a disease of the circulatory system
 - B – fish eggs
 - C – a schooling anabantoid
 - D – a parasitic disease
 - E – a predatory tetra
58. A gravid fish is:
- A – overweight
 - B – swimming erratically
 - C – injured
 - D – pregnant
 - E – angry
59. Butterfly Fish are a popular aquarium fish, known for:
- A – bright colors and flattened bodies
 - B – being scavengers
 - C – feeding on algae, sponges, and corals
 - D – all of the above
60. Invertebrates in a marine tank
- A – should never be treated with copper
 - B – can absorb copper safely
 - C – can be treated with light dosages of copper

61. The males of this species tend to fight with each other:
- A – *Poecilia reticulata*
 - B – *Poecilia sphenops*
 - C – *Brachydanio rerio*
 - D – *Xiphophorus maculatus*
 - E – *Xiphophorus helleri*
62. Cardinal fish are known to:
- A – have a large head
 - B – be nocturnal feeders
 - C – can be trained to eat in the daytime
 - D – all of the above
63. Protein skimmers in the marine aquarium are
- A – only necessary in old tanks
 - B – only used in reef tanks
 - C – only used in fish-only tanks
 - D – recommended for all tanks
 - E – bad for invertebrate tanks
64. It is best to seed a new tank:
- A - with a quantity of fresh live rock
 - B – a small quantity of gravel from a well-established tank.
 - C – commercial bacteria cultures
 - D – a piece of old live rock
 - E – B or C
65. The PH of a marine aquarium can safely fluctuate between the ranges of:
- A – 6.5 to 7.5
 - B – 7.0 to 9.0
 - C – 8.1 to 8.3
 - D – 8.5 to 9.5
 - E – 9.5 to 12.5
66. Melanophores, Xanthophores, and Irodophores are what?
- A – Families of fish
 - B – Specialized cells
 - C – Pigment structures
 - D – Climate zones
 - E – B and C
67. The lagena is part of the fish's
- A – eye
 - B – ear
 - C – mouth
 - D – gill
 - E – lateral line

68. To quickly bring up the PH in a marine aquarium before fish lives are compromised, you can use the following method(s):
- A – increase aeration
 - B – add 10% fresh water
 - C – add vinegar or peat moss to the filter
 - D – do a partial water change
 - E – A or D
69. Which type of thermometer is better?
- A - Internal
 - B - External
 - C – Lambent
 - D – Solar
 - E – Thigmothermic
70. Plants in marine aquariums are
- A – widely grown
 - B – adapted to low light levels
 - C – essential to waste management
 - D – almost always an algae
 - E – eaten by anemones
71. Bubble nests are usually built by
- A – Livebearers
 - B – Gouramis
 - C – Cichlids
 - D – Tetras
 - E – Barbs
72. The end of the breakdown of fish waste leaves this byproduct
- A – Ammonia NH₃
 - B - Nitrite NO₂
 - C – Nitrate NO₃
 - D - Nitrosomas
73. Tubifex
- A – is a noxious parasite
 - B – is easy to culture
 - C – can introduce disease into your aquarium
 - D – is a plant that requires bright light
74. Living rock and the beginner salt water aquarist is a combination that is
- A – Highly recommended
 - B – Not recommended
75. The Cyprinidae family includes the:
- A – angelfish
 - B – betta
 - C – goldfish
 - D – neon tetra
 - E – swordtail

State FFA Aquarium Management 2007 Written Test Answer key
Test Questions form Small Animal Care and Management and Everything book

Key to 24 questions for “Small Animal Care and Management”

1. B page 341
2. C page 341
3. D page 341
4. D page 342
5. A page 342
6. B page 342
7. A page 343
8. B page 343
9. C page 343
10. D page 344
11. D page 345
12. D page 349
13. C page 372
14. B page 373
15. A page 373
16. C page 375
17. D page 375
18. C page 376
19. B page 377
20. D page 377
21. A page 378
22. C page 380
23. A page 381
24. D page 382

Everything Book – Answer Key

25. D page 249.
26. D page 30.
27. F page 30.
28. B page 228.
29. C page 31.
30. C page 5.
31. F page 6.
32. C page 8.
33. B page 9.
34. D page 33.
35. T page 80.
36. T page 68.
37. B page 70.
38. C page 56.
39. F page 83.
40. C page 54.
41. D page 81, 82.
42. A page 91.

43. B page 91.
44. C page 170.
45. A page 228.
46. F page 179.
47. B page 253
48. B page 179.
49. C page 243.
50. T page 179.
51. T page 192.
52. F page 206.
53. A page 208.
54. B page 60.
55. E page 204, 205.
56. A page 208.
57. B page 213.
58. D page 212.
59. D page 252.
60. A page 288.
61. E page 175.
62. D page 251.
63. D page 23.
64. E page 243.
65. C page 229.
66. E page 4.
67. B page 8.
68. E page 229.
69. A page 30.
70. D page 235.
71. B page 216.
72. C page 230.
73. C page 80.
74. B page 238.
75. C page 91.

Aquarium Management Test 2005

1. The most common causes of failure in a new aquarium are:
 - a. Overfeeding
 - b. Overcrowding
 - c. Incompatibility
 - d. All of the above
 - e. None of the above

2. An aquarium can be maintained with the absolute minimum of filtration equipment if an aquarist is willing to:
 - a. Heavily plant and stock tank
 - b. 90% water change once or twice a day
 - c. Use of chemical balancer
 - d. Heavily stock tank with no plants

3. Which fish of the following list of fishes should a beginning aquarist avoid?
 - a. Royal Gramma
 - b. Yellowtail Damselfish
 - c. Rock Beauty Angelfish
 - d. Yellow Tang

4. Most aquarium species will do well between_____.
 - a. 70 to 72 degrees Fahrenheit
 - b. 72 to 74 degrees Fahrenheit
 - c. 76 to 80 degrees Fahrenheit
 - d. 86 to 90 degrees Fahrenheit

5. Fishes live in an aqueous environment, and their waste products are released_____.
 - a. As dissolved ammonia
 - b. Excreted through the gills
 - c. As solid waste
 - d. All of the above
 - e. None of the above

6. How often should an adult Oscar be fed?
 - a. Twice a day
 - b. Once a week
 - c. Twice a week
 - d. Three times a week

7. Sponge filters are only mechanical filtration.
 - a. TRUE
 - b. FALSE

8. Giant Danios would be a good choice for a _____gallon tank.
 - a. 10 gallon
 - b. 20 gallon
 - c. 29 gallon
 - d. 50 gallon

9. A higher ratio of surface area to volume allows for_____.
 - a. Greater gas exchange at air/water interface
 - b. Lesser gas exchange at air/water interface
 - c. Greater chance of suffering poor oxygenation
 - d. Greater need for mechanical assistance

10. Fin & tailrot are brought on by:
 - a. Low temperatures
 - b. Physical damage
 - c. Unhygienic conditions
 - d. All of the above

11. The two major nutrients of importance in an aquarium are:
 - a. Ammonia & nitrite
 - b. Phosphate & nitrate
 - c. Ammonia & phosphate
 - d. Nitrite & nitrate

12. Heaters should be placed_____.
 - a. Horizontally
 - b. On the back glass
 - c. Just above the gravel
 - d. Under the filter return
 - e. All of the above
 - f. None of the above

13. Which is an important protein source for herbivorous fishes?
 - a. Crustaceans
 - b. Plants
 - c. Algae

14. What system requires practically no equipment & no labor once it is set up?
 - a. Hang-on the tank
 - b. Undergravel
 - c. Trickle filter
 - d. All of the above
 - e. None of the above

15. Nylon pads, filter floss, sponge, pleated cartridges are examples of what type of filtration?
- Chemical
 - Mechanical
 - Biological
 - Diatomaceous
16. In a well-oxygenated aquarium, fishes gasp at the surface because:
- Their breathing is hindered by parasites
 - Damage to their gills
 - Toxins in the water
 - All of the above
 - None of the above
17. Which cichlid would be suitable for a community setup?
- Kribensis
 - Mbuna
 - Pacu
 - Oscar
18. Angel fishes make good starter fishes for 1st time aquarists because of their long, flowing fins.
- TRUE
 - FALSE
19. To thoroughly disinfect a previously used tank, which of the following may be used?
- Hydrogen peroxide
 - Solution of chlorine bleach
 - Both
 - Neither
20. Quarantine tanks being used for treating sick fishes should:
- Have filtration turned off
 - Should not have extra aeration
 - All of the above
 - None of the above
21. Where does gas exchange-oxygen in, carbon dioxide out-occur?
- Bottom of the tank
 - Back of the tank
 - Top of the tank
 - Sides of the tank

22. Algae allowed to grow on the back of a tank will:
- Absorb nutrients
 - Keep algae from growing on plants and rocks
 - Contribute to the diet of the fishes in the tank
 - All of the above
 - None of the above
23. Ultraviolet Sterilizer eliminate:
- Pathogens
 - Disease outbreaks
 - Algal blooms
 - Beneficial microorganisms
 - All of the above
24. In any system, it is best to maximize the horizontal flow of water across the top of the water, since doing so maximizes _____.
- Ammonia exchange
 - pH exchange
 - Gas exchange
 - Microorganism exchange
25. A good piece of live rock is a self-contained biological filter.
- TRUE
 - FALSE
26. What two cichlids are native to the United States?
- Firemouth and Texas
 - Oscar and Jack Dempsey
 - Texas and Jack Dempsey
 - Firemouth and Oscar
27. Grouper fishes are in the _____ category.
- Fast-aggressive
 - Slow-aggressive
 - Moderately aggressive
 - Docile
28. Mouth 'fungus' is related to body fungus and is affected by similar treatments.
- TRUE
 - FALSE
29. What substance is produced by both fishes and the bacteria that decompose fish wastes, uneaten food and other organic substances in the water?

- a. Phosphates
 - b. Nitrates
 - c. Nitrites
 - d. Ammonia
 - e. pH
30. Characteristics need to be considered when choosing a substrate. Which of the following characteristics is desired?
- a. Rounded shape, typical of reef sand or crushed coral
 - b. Coarse to trap detritus
 - c. Small to pack down
 - d. Different sizes to produce “channeling”
31. Microorganisms are aerobic, meaning they need _____.
- a. Low and no-oxygen environment
 - b. Hydrogen sulfide
 - c. Anaerobic bacteria
 - d. High-oxygen environment
32. After spawning, eggs usually hatch in:
- a. A day
 - b. A couple of days
 - c. A week
 - d. 10 days
33. Seahorses and Pipefishes are a good choice for beginning saltwater aquarist.
- a. TRUE
 - b. FALSE
34. Marine fishes are constantly consuming water. Which of the following should not be fed through the water if a new fish completely refuses to eat?
- a. Fructose
 - b. Glucose
 - c. Dextrose
 - d. Sucrose
35. Zebra Danios are:
- a. Egg-depositors
 - b. Mouth-brooders
 - c. Egg-scatterers
 - d. Bubble-nest builders

36. Mollies are not problem fishes but should be reserved for a later time after aquarist has more experience because:
- They are not sensitive to water conditions
 - They do not require a lot of space
 - They do best in brackish or salt water
 - All of the above
 - None of the above
37. A constant diet of one type of flake, frozen, or freeze-dried food will keep marine fishes healthy and vibrant over the long term.
- TRUE
 - FALSE
38. Generally speaking, which substrate is the best for most common aquarium?
- Medium gravel
 - Sand
 - Coarse gravel
 - Glass chips
39. Kelvin is a measurement of:
- Watts
 - Volts
 - Light spectrum
 - All of the above
40. The best way to cool an aquarium during severe heat spells is to:
- Add cold water
 - Add ice cubes
 - Use a fan over the surface
 - None of the above
41. Goldfishes do not belong in tropical tanks because:
- They suffer at tropical temperatures
 - They grow much too big
 - They produce too much waste
 - All of the above
 - None of the above
42. Not only does cooler water hold more oxygen, but lower temperatures also result in _____.
- Fishes eating more
 - Fishes growing faster
 - Slower metabolism
 - Fishes living shorter lives

43. Gestation period for live-bearing fishes is _____.
- 30 days
 - 40 days
 - 50 days
 - None of the above
44. The majority of aquarium species, however, while constant snackers, are not omnivores but rather herbivores.
- TRUE
 - FALSE
45. Biofiltration depends on three supports _____, _____, and _____.
- pH, ammonia, & nutrients
 - Ammonia, nitrates, & oxygen
 - Surface area, oxygen, & nutrients
 - Ammonia, nitrites, & nitrates
46. When water evaporates from an aquarium, the dissolved material-minerals, acids, bases, buffers, waste products:
- All become more concentrated
 - All become less concentrated
 - Do not change at all
47. The biggest factor in figuring stocking rates is waste production. Which of the following fishes waste is more potent?
- Pacu is largely vegetarian consuming huge amounts of low-nutrition food
 - Eel is totally carnivorous consuming very high protein content food
 - Both of the above
 - Neither of the above
48. What is the currently accepted recommended rule of thumb for stocking a marine aquarium?
- 1 inch of fish per 5 gallons
 - 1 inch of fish per gallon
 - 1 fish per gallon
 - 1 fish per 5 gallons
 - None of the above
49. Water filtered through peat moss:
- Drops the hardness
 - Increases the pH
 - Adds calcium
 - Filters out acid

50. To distribute the weight of an aquarium, it should be located:
- On one floor joist
 - Between two floor joists
 - Across several floor joists
 - Parallel to the floor joists
51. When both ammonia and nitrites remain at zero, your tank has cycled.
- TRUE
 - FALSE
52. The most common mistake made by aquarium hobbyist is:
- Over feeding
 - Not enough light
 - Not enough hiding places
 - Overcrowding
53. After the damselfishes, what fishes have more pugnacity inch for inch than virtually any other commonly kept marine family?
- Chaetodontidae
 - Pseudochromidae
 - Apogonidae
 - Plesidopidae
54. The three types of filtration are _____, _____, & _____.
- Sand; undergravel; sponge
 - Sand; undergravel; trickle
 - Hang-on-tank; box; corner
 - Chemical; mechanical; biological
 - Filter floss; carbon; bioballs
55. A non-level tank will be subject to:
- Interference with filter's operation
 - Leaks
 - Breakage
 - All of the above
 - None of the above
56. Which of the following is not needed for maximum plant growth?
- Low-intensity lighting
 - Substrate fertilizers
 - CO₂ supplementation
 - Mineral supplements

57. Fishes' stomachs are about the size of their:
- Tails
 - Gills
 - Scales
 - Eyes
58. All food should be cleaned up completely within _____.
- 1 to 2 minutes
 - 2 to 3 minutes
 - 3 to 4 minutes
59. Surface area is not a factor in determining the carrying capacity of an aquarium.
- TRUE
 - FALSE
60. Cycling an aquarium refers to:
- Water circulation
 - Certain bacteria starting to grow
 - Speed at which water travels through the filter
 - All of the above
61. What makes cheap fishes cheap?
- Easily bred
 - Easily caught
 - Not at all scarce in the wild
 - All of the above
 - None of the above
62. Which of the following fishes are not recommended for cycling a tank?
- Rosy Barb
 - White Cloud
 - Guppies
 - Feeder goldfish
63. What is the absolute minimum for filter flow rates?
- 4-5 times the tank volume per hour
 - 5-6 times the tank volume per hour
 - 6-7 times the tank volume per hour
 - None of the above
64. The most important regular maintenance procedure an aquarist performs is _____.
- Cleaning the filter
 - Partial water changes

- c. Removing algae from aquarium glass
 - d. Changing filter media
65. Biotope Tank refers to a tank with:
- a. Ornamental design
 - b. Natural environment
 - c. Instructional curriculum
 - d. Single species
66. When a marine fish infected with Marine Velvet has been placed in a quarantine tank, the specific gravity should be _____.
- a. 1.026 to 1.028
 - b. 1.030 to 1.032
 - c. 1.010 to 1.012
 - d. 1.014 to 1.016
67. The BEST treatment when fishes are ailing is not to do water changes, thus leaving their environment undisrupted.
- a. TRUE
 - b. FALSE
68. When cleaning the mechanical medium, wash it in:
- a. Soapy water
 - b. Chlorinated tap water
 - c. Aquarium water
 - d. Bleach water
69. The recommended filter for first time aquarists is:
- a. Hang-on outside filter
 - b. Undergravel filter
 - c. Canister filter
 - d. Wet-dry filter
70. What is the best food to offer your fishes?
- a. Feeder fishes
 - b. Wafers
 - c. Variety
 - d. All of the above
 - e. None of the above
71. Chinese Algae Eaters are not good for new tanks because:
- a. They do not eat algae
 - b. They don't come from China
 - c. Often starve to death
 - d. None of the above

72. Bunch plants with either a metal strip or rubber band around their stems should be planted the way they arrive.
- TRUE
 - FALSE
73. Kissing Gouramis kiss because:
- They are aggressive
 - They are choosing a mate
 - They are breeding
 - None of the above
74. A breeding tank is set up to minimize both the chance of spawning and the chance of survival for the young.
- TRUE
 - FALSE
75. Formalin will not kill which of the following?
- Brittle star
 - Snail
 - Watchman Goby
 - Coral

2005 Aquarium Mgt. Answers in chronological order

- E
- B
- C
- C
- D
- D
- B
- D
- A
- D
- B
- E
- A
- E
- B
- E
- A
- B
- C
- D
- C
- D

23. E
24. C
25. A
26. C
27. B
28. B
29. D
30. A
31. D
32. B
33. B
34. D
35. C
36. C
37. B
38. A
39. C
40. C
41. D
42. C
43. A
44. B
45. C
46. A
47. B
48. D
49. A
50. C
51. A
52. D
53. B
54. D
55. D
56. A
57. D
58. A
59. B
60. B
61. D
62. D
63. B
64. B
65. B
66. C
67. B
68. C

- 69. A
- 70. C
- 71. C
- 72. B
- 73. A
- 74. B
- 75. C

