



**SOCIETY  
PROGRAMME AIDS**

**BOOK 18**

FEDERATION OF BRITISH AQUATIC SOCIETIES  
1994 Revised Edition



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## FOREWORD

FBAS publications cover many aspects of fishkeeping, in the main directly connected with fishes themselves, be it sizes, names or Show Classes.

The initial break with this 'tradition' came with **Booklet No. 7 - Society Programme Aids** (now the **YEARBOOK**) followed by **Booklet No.14 - Organisation of an Open Show**, and **Booklet No.8 - Forming a Society**.

Whilst FBAS Aquatalks and Videos are ideal substitutes for having a speaker in person, these have to be booked in advance - no use at all if the speaker fails to appear 'on the night.' Armed with this Booklet (and the second companion Volume, **Booklet No.25 - Quizbook 2**), Societies can instantly fill any gap that may suddenly appear in their programmes.

This Booklet is in two parts: the first contains basic material arranged in sections, each a different aquatic subject, so it is easy to have a quiz on a specific, or on general subjects as the need arises. The second part provides other ideas for Societies when making up Quiz Evenings.

We are indebted to those Societies who have allowed us to draw upon their own quiz materials, notably **The Tyne/Tees Area Association**, **The Association of Essex & East of London Aquatic Societies**, a very welcome contribution from **Oldham A.S (F.N.A.S.)**, but especially to **Stan Forrest** of **St Edmundsbury A.S.** who not only provided a large proportion of the questions but also put forward the idea of producing this collection in the first place.

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## **HELPING HINTS**

There is a slight difference between a Quiz evening for your own meetings and one which involves visiting Societies. The first is quite likely to stagger on from round to round with allowances being made for inadequate scoring and the occasional (?) help. In an Inter-Society Quiz things have to be that much more controlled - if the friendly rivalry is to be continued into future encounters!

**WHO ANSWERS ?**                      The 'first-on-the-buzzer wins the right to answer the question' system has some disadvantages, especially where a team depends on its 'know-all' member to answer everything (correctly, of course!) which rather nullifies the point of having a team at all. A fairer is to have questions put to individuals for a set number of 'rounds' then let the buzzer decide (and inject drama and excitement) into the final round.  
(See buzzer-indicator lamp design circuit later in this booklet)

**SCORING**                      'Tactical buzzing' can also be a problem, depriving opponents of the right to answer and getting maybe maximum points. Three points for a correct first answer, two points for a correct answer from the opposing team and one point for any 'team conference' answers are starting suggestions for scoring systems. Keep the audience interested, give scores periodically and arrange that refreshments come before the Semi-final or Final.

**FAIR PLAY?**                      It is diplomatic (especially in any Inter-Society Quiz) to have someone unconnected with any of the participating teams to be Quizmaster and general arbitrator.

Some final advice - keep things ticking over steadily: don't argue over technicalities in the answers. Twenty minutes per round should be the target time to aim for and, in the interests of conserving time, it may be to your advantage to declare any team as winners once they've passed the point where they cannot be caught.

## **HAPPY QUIZZING !**

# ***Tropical Subjects***

## QUIZ QUESTIONS : Cyprinids

1. Where are the teeth in members of the Cyprinid fishes ?  
**In their throats**
2. Why are Barbs so named ?  
**From the Latin 'Barbus' which means beard - a reference to their whiskers or barbels**
3. Where do Harlequin Fish lay their eggs ?  
**Under a broad leaf**
4. How many barbels might Barbs have ?  
**One or two pairs, or even none**
5. The Scissortail belongs to which genus ?  
**Rasbora**
6. Where does the Clipper Barb come from ?  
**Africa**
7. Red nose, black stripes, red-edged black fins; what is it ?  
**Male Tiger Barb**
8. What's a Red Wonder Fish or a Venus Fish ?  
**A variety of White Cloud Mountain Minnow ; sometimes classed as a separate species, *Aphyocypris pooni***
9. How do most Cyprinids spawn ?  
**By egg-scattering**
10. Name perhaps the most widely-kept Cyprinid.  
**The Goldfish**
11. Describe an obvious difference between *Rasbora cephalotaenia* and *Barbus viviparus*.  
***Barbus viviparus* has a more distinct 'double line' section to the black band along its side**
12. Why is *Barbus viviparus* incorrectly named ?  
**It's not a livebearing fish;the young fish found inside it when first discovered was a recent meal not its own baby fish**
13. Apart from Barbs and Rasboras what is another fairly large group of Cyprinids ?  
**Danios**
14. What does *Brachydanio* mean ?  
**Short Danio**

## QUIZ QUESTIONS : Cyprinids

15. Where does the Flying Fox come from ?  
**Sumatra, Borneo, Thailand**
16. What does *Tanichthys* mean ?  
**Tan's fish (after the discoverer, a Chinese Scout called Tan)**
17. The eggs of the Tiger barb are:  
a) Green b) Yellow c) Dark brown  
**b) Yellow**
18. What is the difference between *Barbus pentazona* and *B. tetrazona* ?  
***B.pentazona* has 5 bars, *B.tetrazona* has 4**
19. What colour is the dorsal fin of *Barbus nigrofasciatus* ?  
**Black**
20. Where does the Rosy Barb come from ?  
**India**
21. Name a group of surface swimming cyprinids.  
**Danios**
22. What is a general sign that some male coldwater cyprinids display at breeding time?  
**They develop white tubercles on the gill covers, head and pectoral fins**

## QUIZ QUESTIONS : Characins

1. Describe the physical difference between *Hyphessobrycon* and *Hemigrammus* ?  
***Hemigrammus* has scales on the base of the caudal fin**
2. When has a Three-lined Pencilfish two upright dark bars ?  
**First thing in the morning - it's its night-time colours**
3. What type of fish is the Belgian Flagfish ?  
**A Tetra, *Hyphessobrycon heterorhabdus***
4. The male Swordtail Characin has something peculiar about his gill-covers, what is it and what is its function ?  
**Long extension filaments ending in a spoon-shape, which he waves at the female to induce her to spawn**
5. Detail the Swordtail Characin's spawning method ?  
**The male fires packets of sperm into the female, using his long anal fin to direct it, and the female is thus impregnated; later on, she lays internally-fertilised eggs under a plant leaf without any further need for the male. Impregnation is often for life**
6. What is a characteristic of African Characins ?  
**Large scales**
7. What spawning medium does the Splashing Tetra need ?  
**An overhanging leaf, or at least a cover-glass; it lays its eggs out of water**
8. Diamond Tetra, Congo Tetra and Bleeding-heart Tetra males all have these ?  
**Enlarged dorsal fins**
9. The Emperor Tetra, Sparkling Gourami and the *Priapella* livebearer all have these ?  
**Blue eyes**
10. What do the initials C.S.S. stand for ?  
**The Characin Study Society**
11. What unfortunate characteristic do fishes such as *Leporinus*, *Metynnix*, *Mylossoma* and *Colossoma* share ?  
**They all love aquarium plants**



## QUIZ QUESTIONS : Characins

12. What is the difference in the teeth action between Characins and Cyprinids ?  
**Characins have sharp teeth in the mouth for slashing and biting, Barbs have pharyngeal teeth in the throat for grinding up food**
13. What is the usual natural food of the Pacu ?  
**Fruit**
14. Why was the Neon Tetra banned from Shows shortly after its introduction to the hobby ?  
**Because it was felt that no other fish was capable of beating it**
15. The Tigerfishes, *Hydrocynus* spp., come from where ?  
**African Lakes and rivers**
16. One is black, the other red; both are from the genus *Megalamphodus*. What are they ?  
**Phantom Tetras**
17. What is the purpose of the so-called 'characin hooks' on the male fish's anal fin ?  
**To help hold the female more tightly against him # during spawning**
18. What is the main physical difference between the two principal genera of Hatchetfishes, *Carnegiella* and *Gasteropelecus* ?  
***Carnegiella* has no adipose fin, *Gasteropelecus* has**
19. Apart from Characins, name two other Families of fish that have adipose fins.  
**Catfishes, Salmon/Trout**
20. Name three continents, or large land masses, where Characins are not found.  
**Europe, Asia and North America**

## QUIZ QUESTIONS : Characins

21. Explain the reason for the name *Leporinus*.  
**The fish looks as though it has a hare-lip; *Leporinus* is Latin for little Hare**
22. *Ephippicharax orbicularis*, the Salmon Discus, is now known as ?  
***Poptella orbicularis***
23. Two popular Characins have been named after Dr. Herbert Axelrod, can you name them ?  
***Cheirodon axelrodi* - Cardinal Tetra;  
*Hyphessobrycon herbertaxelrodi* - Black Neon**
24. This Blackamoor is not a variety of Fancy Goldfish ; what is it ?  
**The Black Widow Tetra, *Gymnocorymbus ternetzi***
25. Why is *Copeina arnoldi* called the Splashing Tetra ?  
**Because it lays eggs out of water and has to splash them with water to prevent them drying out**
26. Two Characins swim obliquely, in different directions ?  
**Spotted Headstander and the Penguinfish - one downwards, one upwards**
27. Name two species of *Leporinus*.  
***L.affinis* ; *L.fasciatus* ; *L.frederici* ;  
*L.megalepis* ; *L.melanopleura* ; *L.striatus*.**
28. What have *Aphyocharax* and *Prionobrama* in common ?  
**They are both types of Bloodfin**
29. Give the common names of two popular *Moenkhausia* species.  
**Red-eyed or Glass Tetra ( *M.oligolepis* ,  
*M.sanctofilomenae* ) ;  
Diamond Tetra ( *M.pittieri* )**
30. Supply the missing word in the common names of these Tetras: - Wedge, - Neon, and - Widow.  
**Black**
31. Which large South American country is the home of many Characins ?  
**Brazil**

## QUIZ QUESTIONS : Characins

32. The Marbled Headstander, *Abramites hypselonotus*, comes from: a) South America b) Africa c) India  
**a) South America**
33. From which city does *Hemigrammus caudovittatus* get its common name ?  
**Buenos Aires (Tetra)**
34. What colour are the fins of *Aphyocharax anisitsi* ?  
**Red (Bloodfin)**
35. What are the basic food requirements for *Metynnus* ?  
**Vegetable matter**
36. Which of the following is unsuitable for a community tank:  
a) *Hyphessobrycon rosaceus* b) *Paracheirodon innesi*  
c) *Exodon paradoxus* d) *Pristella maxillaris (riddlei)*  
**c) *Exodon paradoxus* - 6" long and very belligerent**
37. How can you tell the sex of Congo Tetras ?  
**Male has extensions to dorsal and caudal fins**
38. What is odd about *Astyanax mexicanus* ?  
**It has no eyes. Blind Cave Fish**
39. Name a characin named after a month.  
***Hemigrammus hyanuary* (January)**

## QUIZ QUESTIONS : Cichlids

1. How many species of cichlid are native to Asia ?

**2. *Etroplus maculatus* and *E.suratensis***

2. What do Germans describe as a Butterfly Cichlid ?

**The Ram**

3. What might be called the 'Lone Star' fish ?

**The Texas Cichlid**

4. Name the genus of fish that is featured in Egyptian paintings and mosaics.

**Tilapia**

5. What fishes have to go without food whilst they're spawning ?

**Female mouthbrooding cichlids**

6. What is the principle food of the Mbuna ?

**Algae**

7. To what native freshwater fishes are the Cichlids related ?

**The Perches**

8. What is the name of the tube through which the female cichlid fish lays eggs ?

**The ovipositor**

9. Name three methods of Cichlid breeding.

**1) Egg-depositing on open sites.**

**2) Egg-depositing in secret sites, such as flowerpots or caves.**

**3) Mouthbrooding**

10. Name a fish whose fry feed from the parents' skin.

**Discus; *Uaru***

11. Name a fish with similar pelvic fins to the Festive Cichlid.

**The Angelfish**

12. Name a group of fishes whose males carry egg-spots on the anal fin.

**Rift Valley Cichlids**

13. How do the majority of the larger Rift Valley Cichlids breed ?

**By mouthbrooding**

## QUIZ QUESTIONS : Cichlids

14. What do Central American Cichlids and Rift Valley Cichlids have in common ?  
**They both like hard water conditions**
15. This fish ought to have been a boxer.  
**Jack Dempsey**
16. Name a genus of fish often exported to other countries as a food fish.  
**Tilapia**
17. *borelli*, *agassizi* and *cacuotuoides* are all species of what ?  
***Apistogramma***
18. What does B.C.A. stand for?  
**British Cichlid Association**
19. What genus includes the Green terror?  
***Aequidens (rivulatus)***
20. This fish should have been a butler.  
**Keyhole Cichlid**
21. Does this Cichlid get time off for good behaviour?  
**Convict Cichlid**
22. This fish would have lost its head in the French Revolution.  
**Pompadour Fish (Discus)**
23. Has this fish got a sore throat?  
**Firemouth Cichlid**
24. The breeding colour of this Cichlid is bright red.  
**Jewel Cichlid**
25. What is a feature of most mouthbrooding males ?  
**They have imitation egg-spots on their anal fins**
26. Why do male mouthbrooders have anal fin egg-spots ?  
**To attract the female's attention, when she is picking up eggs, to get her mouth near to the male's vent so that the eggs she's picked up already are fertilised properly**

## QUIZ QUESTIONS : Cichlids

27. In place of egg-spots, what else can a male fish have to serve the same purpose ?

**A spawning tassel**

28. Which is the odd one out, and why ?

a) *Julidochromis ornatus*

b) *Haplochromis wingati*

c) *Lamprologus tredocephalus*

**b) ; the others are only found in Lake Tanganyika**

29. Where does *Herotilapia multispinosa* come from ?

**Costa Rica, Nicaragua**

30. Where does *Lamprologus leleupi* come from ?

**Lake Tanganyika**

31. What colour is *Lamprologus leleupi* ?

**Bright yellow**

32. Why is *Haplochromis compressiceps* not a good community fish?

**Because it attacks the eyes of other fishes**

33. Describe the natural waters of *Nannochromis nudiceps*.

**Swift-moving, shallow water**

34. What is the basic colour of *Apistogramma reitzigi* ?

**Yellow**

35. Where do 'Kribensis' come from ?

**West Africa**

36. Are *Crenicichla* and *Crenicara* shown in the same Class ?

**No; *Crenicichla* goes in Class Dz,**

***Crenicara* in Class Db**

37. Who wrote 'Cichlids of the World' ?

**Robert Goldstein**

38. From its scientific name, what does *Geophagus* eat ?

**Earth**

39. Into what pattern are the body colours of *Crenicara maculata* arranged ?

**Alternate black and light gold squares, like a checker-board**

## QUIZ QUESTIONS : Cichlids

40. How can you prevent digging Cichlids from toppling rocks?  
**Sit any large rocks directly on the tank floor before adding any gravel**
41. What country provides excellent cichlid inmates for a hard water, rock-decorated aquarium ?  
**Africa; any of the Rift Valley fishes will just love it!**
42. Is there such a thing as a Pink Kribensis ?  
**Yes: it's a colour variation of the normal Krib**
43. Many male African cichlids develop a 'frontal gibbosity' what is it ?  
**A lump on the top of the head**
44. Many *Cichlasoma* have the ability to change their what ?  
**Colours**
45. Are Cichlids carnivores, herbivores or omnivores ?  
**They may be all three, depending on species**

## QUIZ QUESTIONS : Anabantids

1. Name a food fish belonging to the Labyrinth fish group.  
***Osphronemus goramy***
2. What part of Africa do most *Ctenopoma* come from ?  
**Western and central areas, especially the Zaire area**
3. Of the following, which is the odd one out and why:  
Chocolate Gourami, Dwarf Gourami, Fighter, Leeri ?  
**Chocolate Gourami - it's a mouthbrooder**
4. Of the following which is the odd one out and why:  
Dwarf Gourami, Fighter, Leeri Gourami, Sparkling Gourami ?  
**Sparkling Gourami builds its bubble nest under a leaf**
5. Describe how the labyrinth organ works.  
**Atmospheric air gulped at the surface is stored in the labyrinth organ, a series of moist folded membranes situated behind the gills. Oxygen is then absorbed into the bloodstream through thin membranes**
6. What enables labyrinth fishes to twist their bodies so much, especially during spawning ?  
**All of their internal organs are situated near the front end of their bodies, the rest is just muscle and backbone making for a very flexible body**
7. What happens if some species of labyrinth fish are prevented from reaching the water surface ?  
**They will die through not getting enough oxygen**
8. What labyrinth fish can survive long periods out of water ?  
**The Climbing Perch**
9. Can you name an Asian species of fish which, like the Siamese Fighting Fish, is kept to fight battles for wagers ?  
**The Wrestling Halfbeak - *Dermogenys pusillus***
10. How would you describe the behavioural characteristic of the *Ctenopoma* group ?  
**Predatory**
11. How can you sex the young Sparkling Gourami ?  
**The male has a red line along the body at the base of the anal fin**



## QUIZ QUESTIONS : Anabantids

12. This Gourami ought to be a good source of handbag material.

**Snakeskin Gourami**

13. This male Gourami turns a dark colour when breeding.

**Thicklip Gourami**

14. What does the '*microlepis*' part of the Moonlight Gourami's scientific name mean ?

**Small-scaled**

15. Name a Gourami that uses plant material in the construction of its bubble nest.

**The Dwarf Gourami**

16. What should you provide for the female Gourami during spawning ?

**Plenty of plants to act as a refuge for her from the male, who often turns very aggressive**

17. Why is the Combtail so named ?

**Because of the extended rays in the caudal fin which give it the appearance of teeth of a comb**

18. *cupanus dayi*, *chinensis* and *opercularis* are all species of what ?

**Macropodus; Paradisefishes**

19. Do all species of *Betta* spawn the same way ?

**No; some are mouthbrooders**

20. How can you sex the Paradisefish?

**The male is larger, has pointed fins and is more brightly coloured**

21. What is the largest member of the *Trichogaster* genus ?

***Trichogaster pectoralis*, the Snakeskin Gourami**

22. This labyrinth fish may go for walks.

**Climbing Perch**

23. Where do Paradisefish come from ?

**China, Korea, Taiwan, Vietnam**

24. How many spots are there on each side of the Three-spot Gourami ?

**Two; the third 'spot' is the eye**

## QUIZ QUESTIONS : Killifish

1. What does the Killi part of Killifish mean ?  
**Ditch**
2. Name a fish with Florida in its scientific name.  
***Jordanella floridae*, the American Flagfish**
3. What colour is the male Argentine Pearlfish when breeding ?  
**Black**
4. What is meant by 'switch-spawning ?'  
**Where a fish may change between spawning in peat on the aquarium floor and spawning in plants or mops**
5. Where are the two main natural habitats of Killifishes ?  
**West Africa and South America**
6. What do the initials B.K.A. stand for ?  
**British Killifish Association**
7. A material often used for covering the killifish tank base.  
**Peat-fibre**
8. What's another group name for Killifishes ?  
**Top-minnows**
9. What is the general swimming area favoured by Killifishes ?  
**The upper layers of the water**
10. Give two reasons why Killifish should be given tanks to themselves.  
**They prefer cooler water conditions to most community fishes, and they are also fairly predatory**
11. What floating plant makes a good spawning medium (and safe refuge for the young fish) for Killifish ?  
***Riccia***
12. Name a genus of Killifishes found in some Mediterranean countries.  
***Aphanius* ; found in Spain, N. Africa, Italy, Asia Minor, Cyprus**
13. Name two species of a single genus which have many colour variants and possibly sub-species.  
***Aphyosemion bivittatum* and *Aphyosemion gardneri***

## QUIZ QUESTIONS : Killifish

14. How can a good book help you spawn Killifish ?  
**You wind the wool to make a spawning mop around it !**
15. Apart from colouring it, what other effects does peat have on aquarium water ?  
**It gives it an acid reaction, may make it a little softer and helps keep the bacteria count low**
16. What's the difference between a 'Peat-diver' and a 'Peat-plougher' ?  
**A peat-diver buries eggs deep into the peat covering on the tank floor, but a peat-plougher just makes a shallow furrow in which to deposit eggs**
17. Which Killifish has scales that stand out from its body ?  
***Pachypanchax playfairi***
18. What is the main breeding difference between the 'annual' and 'non-annual' Killifishes ?  
**The 'annuals' lay their eggs in the substrate, whilst non-annuals usually lay their eggs in plants**
19. What's the difference between *Aphyosemion bivittatum hollyi* and *Aphyosemion bivittatum bivittatum* ?  
**One's the Blue Lyretail the other is the Red Lyretail**
20. *milesi*, *harti*, *agilae* and *strigata* are all species of what ?  
***Rivulus***
21. What is the incubation period of the eggs of *Pachypanchax playfairi* ?  
**Two weeks**
22. *iberus*, *mento* and *fasciatus* are species of what ?  
***Aphanius***

## QUIZ QUESTIONS : Catfish

1. What has *Brochis* got on its snout that *Corydoras* hasn't ?  
**A bony plate**
2. How many barbels has a *Corydoras* ?  
**4, in two pairs**
3. How many barbels has a *Synodontis* ?  
**6, in three pairs**
4. What are the juvenile colours of *Synodontis angelicus* ?  
**Violet with white spots**
5. What does the Callichthyidae group of Catfishes have in place of scales ?  
**Bony plates called scutes**
6. Why are some species called the Naked Catfishes ?  
**Because they have neither scales nor scutes, just skin**
7. Which Catfish should be able to get a place in a pop group ?  
**The Banjo catfish**
8. What do the initials C.A.G.B. stand for ?  
**Catfish Association of Great Britain**
9. Name the two Dutch ichthyologists responsible for much of the modern classification of Catfish information.  
**Nijssen and Isbrucker**
10. Name the English author of a series of Catfish books.  
**David Sands**
11. Name a group of Catfish that usually spawn more readily after the addition of cooler water to their aquarium.  
***Corydoras***
12. Fishes usually have a light coloured belly, can you name a Catfish with a dark-coloured belly and give a reason for it ?  
**Upside-down Catfish - to camouflage it when seen from above as it swims inverted**
13. Describe how some Catfish can breathe atmospheric air.  
**By extracting oxygen from air gulped at the surface in their hindgut**
14. Catfishes have superior, inferior or terminal mouths ?  
**Inferior, meaning underslung mouths**

## QUIZ QUESTIONS : Catfish

15. What is the difference between maxillary and mandibular barbels ?

**Maxillary - top lip; mandibular - lower lip**

16. Name a Catfish genus having a large fatty adipose fin.

***Synodontis***

17. Why do some Catfish lock fins in the upright position ?

**To avoid capture, or being eaten by larger fishes**

18. Describe the reproduction method of *Corydoras* .

**They lay eggs on flat surfaces, the eggs being carried there by the female between her pelvic fins**

19. Why should the Glass Catfish not be kept on its own ?

**Because it is a gregarious fish, liking the company of its own species, and will not thrive if kept in isolation**

20. Name a marine Catfish.

***Plotosus anguillaris***

21. Name a very large freshwater, coldwater Catfish.

***Silurus glanis***

22. What is the main feature of *Dianema urostriata* ?

**The black and white striped caudal fin**

23. To what genus does the Bristlenose Catfish belong?

***Ancistrus***

24. Name a Family of Catfishes which includes *Ancistrus*, *Farlowella*, *Hypostomus*, *Otocinclus*, *Stenopoma* and the genus which gives the Family its name.

**Loricariidae - *Loricaria***

25. Where does *Leiocassis simamensis* come from ?

**Thailand (Siam)**

26. How many rays has the dorsal fin of the Glass Catfish ?

**1**

27. The Catfish *Pimelodus pictus* comes from:

a) Colombia b) Eastern Brazil c) Mexico

**a) Colombia**

## QUIZ QUESTIONS : Catfish

28. Do members of the *Clarias* genus have large or small scales ?  
**Neither, they have no scales**
29. Name a large coldwater catfish.  
***Ictalurus sp.***
30. Name Families of large catfishes from either side of the Atlantic.  
***Pimelodidae (S.America) ; Mochokidae (Africa)***
31. Name a large eel-like Catfish native to Africa and Asia.  
***Clarias***
32. What is peculiar to the eyes of Loricariidae ?  
**There is an expandable flap of skin over the iris which controls the amount of light reaching the eye**
33. Although related to the *Corydoras*, how does *Callichthys* differ in spawning ?  
**It builds a bubblenest**
34. Name a catfish that looks like a smaller version of the Sucking Loach.  
***Otocinclus***

## QUIZ QUESTIONS : Loaches

1. Name the odd one out in these species - Coolie Loach, Clown Loach, Sucking Loach, Horse-faced Loach, Weather Loach ?  
**Sucking Loach - it isn't a Loach**
2. What have Botias and Surgeonfish in common ?  
**Erectile spines**
3. This small Loach has a dark stripe running from snout to caudal peduncle over the top of the body.  
***Botia morleti* (formerly *B.horae*)**
4. What Loach might also be called the Barometer Fish ?  
**The Weather Loach**
5. Which small Loach swims in midwater as well as near the bottom ?  
***Botia sidthimunki***
6. How many barbels have Botias ?  
**Three to four pairs, depending on species**
7. Botias are said to be rather intolerant of what ?  
**Aquarium medications**
8. *Botia sidthimunki* is commonly known as what ?  
**Golden Chain Loach**
9. To which Family do Loaches belong ?  
**The Cobitidae**
10. *Botia modesta* has yellow fins, but what colour body ?  
**Blue-grey**
11. Give the popular name for *Botia macracantha*  
**Clown Loach**
12. *Acanthopsis choirorhynchus* is better known as ?  
**The Horse-faced Loach**
13. Where does the Clown Loach come from:  
a) Indonesia b) South-east Asia c) India  
**a) Indonesia**
14. How many species of Loach can be found in the Americas:  
0, 5, 8, 10 ?  
**None**
15. Name a behavioural characteristic of most Loaches.  
**They are nocturnal by nature**
16. Are Botias and other Loaches gregarious or solitary species by nature ?  
**Gregarious**

## QUIZ QUESTIONS : Livebearers

1. Give the common name for the male livebearer's anal fin ?  
**Gonopodium**
2. Why have Guppies and Gambusias been exported to other tropical countries ?  
**To eat mosquito larvae thus controlling the spread of malaria-carrying mosquitoes**
3. How many broods can female members of the Goodeidae family have from one mating ?  
**One**
4. What's so special about *Poecilia formosa* ?  
**They are always females and depend on males from other species to stimulate development of their eggs**
5. Describe the difference between the anal fins of a male Swordtail and a male *Xenotoca eiseni*.  
**The *Xenotoca* has only a few first rays of the anal fin branched to form a very primitive gonopodium instead of a fully developed gonopodium like the Swordtail**
6. What fishes might wear Tuxedos ?  
**Swordtails and Platys - it's a recognised colour strain**
7. What are Pin, Cofer, Scarf and Delta examples of ?  
**Guppy tails**
8. What can Four-Eyes do that other fishes can't ?  
**See above and below the water at the same time**
9. In which family of Livebearers are the young fish connected to the female by means of a primitive umbilical cord before birth ?  
**The Goodeidae**
10. Name a genus of Livebearer that contains two species, one very much larger than the other.  
***Heterandria* ; female *H.bimaculatus* grows to 100mm ; female *H.formosa* (Mosquitofish) only manages 35mm**
11. Which grows larger, the *velifera* or *latipinna* Molly ?  
**The *velifera***
12. What forms an essential part of all livebearer dietary needs ?  
**Green foods**



## QUIZ QUESTIONS : Livebearers

13. How have Mollies become tolerant of salt in their water ?  
**In nature, they inhabit waters that receive periodic additions of seawater**
14. What is the usual recommended amount of salt to be added to the livebearers' aquarium water ?  
**About 1 teaspoonsful per gallon (5 litres)**
15. What is the word most fishkeepers use to describe a pregnant livebearer female ?  
**Gravid**
16. What livebearer must feed at the surface ?  
**The Halfbeak**
17. What is so peculiar about the genus *Jenynsia* ?  
**They are known as the One-sided Livebearer because the male can only swing his gonopodium in one direction and has to find a female who can only accept a male from that corresponding side**
18. What livebearer is known as the 'Bishop Fish' ?  
***Brachyrhaphis episcopi***
19. What is the meaning of *velifera* ?  
**Bearing a sail**
20. Swordtails originate from where ?  
**Mexico and Guatemala**
21. To which of the following group do the Guppy and Molly belong: a) *Molliensia* b) *Poecilia* c) *Lebistes* d) *Limia*.  
**b) Poecilia**
22. Why is *Alfaro* known as the Knife-livebearer ?  
**Because the bottom of the body is shaped like the blade of a knife.**
23. The name Molly is an abbreviation for *Molliensia* ; what is *Molliensia* derived from ?  
**Mollien, a French ichthyologist**
24. Plants might be at risk in two ways in a Molly tank; one is by being nibbled at by the fish, what is the other ?  
**From the salt that you put in the water for the benefit of the fish**

## QUIZ QUESTIONS : Marines

1. What does the Gurnard use its pectoral fins for apart from swimming ?  
**Walking about on the sea bed and feeling or tasting for food**
2. Where is the Starfish's stomach ?  
**Underneath in the centre**
3. How can you distinguish between the true Cleanerfish and the False Cleaner ?  
**The true Cleanerfish fish has its mouth right on the tip of the snout, the False Cleaner's mouth is underslung**
4. Juvenile Wrasses and marine Angelfish have a common characteristic, what is it ?  
**They are all differently coloured to the adult fish**
5. What are the marks on the side of the John Dory supposed to signify ?  
**Where the fish was held by St Peter**
6. How do marine Angelfishes differ from Butterflyfishes ?  
**They have a spine at the rear of the gill-cover**
7. Why are Triggerfishes so named?  
**Because they have a front dorsal fin that can be locked in position by means of a trigger-like mechanism**
8. Where do Surgeonfishes keep their scalpels ?  
**On their caudal peduncle**
9. What is so dangerous about Lionfishes ?  
**They have venomous spines**
10. Name the type of locality that most marine fishes come from.  
**Coral reefs**
11. What are described as Strawberry, Plumose, Beadlet, or Snakelocks ?  
**Native Sea-anemones**
12. How can you tell Blennies and Gobies apart ?  
**Gobies have the pelvic fins fused together to form a suction cup, Blennies have separated pelvic fins**
13. What fish will eat snails ?  
**Pufferfish**
14. How many barbels has a Cod ?  
**One**
15. How many dorsal fins has a Cod ?  
**Three**

## QUIZ QUESTIONS : Marines

16. How many dorsal fins has a Triggerfish ?  
**Two, the first one is usually held flat in a groove**
17. What marine fish's growth occurs mainly in the caudal peduncle area ?  
**A Cowfish**
18. What is the collective name for Cowfishes, Hovercraft Fish etc?  
**Boxfishes**
19. What is the Portugese Man of War and what colour is it ?  
**A jellyfish, and it's purple**
20. What fish lays eggs in a neat oblong case with tendrils at each end corner ?  
**The Dogfish**
21. What cloth is made from Shark-skin ?  
**Shagreen**
22. Are Sharks egglayers or livebearers ?  
**Both**
23. How often does a Shark renew its teeth ?  
**Continuously**
24. What happens to luminous fish when they are brought up to the surface ?  
**They usually burst, due to being brought up too quickly without allowing time for decompression**
25. Name three Flatfishes.  
**Plaice, Dab, Flounder, Sole, Brill, Halibut, Turbot**
26. What's the largest Flatfish generally caught for food ?  
**The Halibut**
27. What side are most Flatfishes' eyes on ?  
**The right**
28. How does an Anglerfish catch its prey ?  
**It has a growth over the top of its mouth that lures other fishes near enough to it to be grabbed**
29. What threat do Crown of Thorns Starfish pose to the coral reef ?  
**They eat it**
30. Which fish eats the Crown of Thorns Starfish ?  
**The Triggerfish**
31. What fins are sometimes missing or only rudimentary stubs on some marine fishes?  
**The pelvic, or ventral fins**

## QUIZ QUESTIONS : Any Other Species

1. Knife-fishes and Elephant-noses have what in common ?  
**They generate electricity which is used in navigation**
2. What is another physical feature of the Knifefishes ?  
**They have no dorsal fins**
3. Name two land 'neighbours' of the Sleeper Goby,  
*Mogurnda mogurnda*.  
**Koala bear, Kangaroo, Emu, Kookaburra .**
4. This 'Looks like a Cichlid' member of the Nandidae has been recently moved to a family of its own according to some authorities; it can change its colour pattern very easily too.  
***Badis badis*; now a member of the Badidae Family**
5. The male of another egg-depositing member of the Nandid Family changes into a dark colour when spawning. Name the species.  
***Polycentrus* - the Leaf Fish**
6. Give another common name for the Bala Shark.  
**The Silver Shark**  
***Balantiocheilus melanopterus***
7. How many species are recognised in the genus *Bedotia* ?  
**One. *Bedotia geayi*,  
the Madagascar Rainbow Fish**
8. What is the difference between *Electrophorus electricus* and *Malapterurus electricus* ?  
***Electrophorus* is an Electric Eel,  
*Malapterurus* an Electric Catfish**
9. The Chinese Algae eater not only doesn't come from China, but it also isn't what else ?  
**A Loach. *Gyrinocheilus aymonieri* from Thailand is more closely related to the Cyprinid Family**
10. Which Family of fishes hide most of themselves in the gravel by day ?  
**Spiny Eels**
11. Rainbowfishes belong to which Family ?  
**The Atherinidae, the Silversides**
12. What is unusual about the spawning of the Ricefish?  
**The fertilised eggs are carried around in a bunch by the female for some time and are eventually brushed off amongst plants to hatch**

## QUIZ QUESTIONS : Any Other Species

13. Where does the Ricefish's name, *Oryzias*, come from ?  
***Oryzia*, the botanical name for Rice.**
14. The favourite natural food of Monos and Scats is what ?  
**Mud, decomposing material, excrement and anything else they can find in polluted estuarine waters**
15. What is the main physical feature of the Butterfly Fish ?  
**Its large pectoral fins, with which it glides across the water surface, like South American Hatchetfishes**
16. What is unusual about the Mudskipper's eyes?  
**They have to be kept moist - either by periodically rotating them in their sockets or by dipping the head into water**
17. What are Lungfishes noted for?  
**They bury themselves in deep mud to escape drought conditions**
18. What's the largest 'bony' fish?  
**The Sturgeon, *Acipenser huso***
19. What's the largest totally freshwater fish?  
***Pangasianodon gigas*, a giant Catfish from Thailand**
20. What is another more famous species of a very large freshwater fish?  
**The Arapaima; it grows to around 2 metres (6 ft+)**
21. Can you describe the teeth of a Pufferfish?  
**They are fused together to form more of a beak**
22. What do Archerfish eat, and how do they catch them?  
**Perching insects ; it shoots them down with squirts of saliva 'fired' from its mouth.**
23. What's the smallest marine fish?  
**Marshall Islands Goby, *Eviota zonura*, 12-16mm; another pygmy is *Schindleria praematurus* from Samoa, also around 12mm-19mm.**
24. What's the smallest freshwater fish?  
**The Pandaka, Dwarf Pygmy Goby 7.5-10mm.**
25. What's the most poisonous fish?  
**The marine Stonefish**
26. What is the voltage-generating ability of the Electric Eel ?  
**400 volts average, but up to 650 volts.**

## QUIZ QUESTIONS : Any Other Species

27. What's the smallest known Shark?  
**The Long-faced Dwarf Shark, *Squaliolus laticaudus*, 110mm.**
28. What kind of fish is the Electric Eel most closely related to: a) A Tetra b) An Eel c) An Elephant-Nose ?  
**a) A Tetra.**
29. How many fish can generate electricity ?  
a) 50 b) 100 c) more than 100 ?  
**c) more than 100.**
30. How are the Americas and Africa and Asia often described in fish books ?  
**New World (Americas), and Old World (Africa and Asia).**
31. Which two fishes appear on the two different Size Sheets?  
***Monodactylus*, *Scatophagus*: Class M (freshwater) and Class Y (marine)**
32. What is characteristic of the Australian Rainbowfishes ?  
**They have two dorsal fins.**
33. Is the Tiger Fish, *Datnioides microlepis*, vegetarian or carnivorous ?  
**Carnivorous.**
34. To what Family does the Glassfish belong ?  
**The Ambassidae.**
35. The Toxotidae Family is better known as what ?  
**Archerfishes.**
36. Describe the colour pattern of *Brachygobius xanthozona*.  
**Vertical black and yellow bands. (Bumblebee Goby)**
37. Australians call them Gudgeon, we call them what ?  
**Gobies.**
38. The Scat is a lover of what type of water?  
**Brackish.**
39. This fish can breathe without taking water in through its mouth.  
**Sucking Loach, *Gyrinocheilus aymonieri*.**
40. This fish, with two dorsal fins, is native to an island.  
**Celebes Rainbow - *Telmatherina ladiges***
41. Another fish, another island, still has two dorsal fins.  
**Australian Rainbowfish, *Melanotaenia*, or *Nematocentris* species**

***Coldwater  
Subjects***

## QUIZ QUESTIONS : Coldwater

1. Where did the Goldfish originate ?  
**China**
2. Name four varieties of Singletail goldfish  
**Common, Comet, London Shubunkin, Bristol Shubunkin, Sarasa (Comet)**
3. What is the principle difference between a Lionhead and an Oranda ?  
**The Oranda has a dorsal fin**
4. What freshwater fish is known as the Doctor Fish ?  
**The Tench**
5. Name three types of scale-groups in Goldfish  
**Metallic, Nacreous, Matt**
6. What grows over the head of a Lionhead and Oranda Fancy Goldfish ?  
**A raspberry-like growth called the wen**
7. Name two Fancy varieties of Goldfish whose eyes look upward.  
**Celestial, Bubble-Eye, Star-gazer**
8. Bristol and London Shubunkins differ how ?  
**Bristol Shubunkin has much larger caudal fin**
9. Blindfolded, how could you tell the difference between a Koi and a Goldfish ?  
**Feel around its mouth for barbels - goldfish don't have any**
10. How are Koi judged as compared to those fish shown in tanks at Open Shows ?  
**They are judged from above**
11. How deep should a Koi pond be for safe overwintering ?  
**In excess of 1.5 metres**
12. Which fishes appear to have ear-flaps ?  
**Sunfishes**
13. With coldwater aquarium and pond fishes what should you do in thundery weather ?  
**Increase aeration in the aquarium, turn on pond fountains**
14. How much water should there be in a Goldfish bowl ?  
**No deeper than the widest part of the bowl**
15. Name a freshwater fish with two dorsal fins  
**The Perch**
16. Name two long-lived migratory fish that live in both salt and freshwater  
**Eels and Salmon**



## QUIZ QUESTIONS : Coldwater

17. How much did Clarissa, the record-breaking Carp, weigh when presented to London Zoo ?  
**44lbs - approx 20 kilogrammes**
18. Name a freshwater relative of the Cod  
**The Burbot**
19. What's another name for the Pike-Perch ?  
**The Zander**
20. What comes from the Sturgeon ?  
**Caviar**
21. Traditionally what should you do if you catch a Sturgeon ?  
**Offer it to the Queen**
22. What is the young of an Eel called ?  
**Elver**
23. What is the first stage young of the Salmon, or Trout, called ?  
**Smolt**
24. Name the second stage young of the Salmon, or Trout.  
**Parr**
25. Name a locality in England once famous for commercial Salmon fishing.  
**Northumberland coast**
26. What did King Henry 1 die of ?  
**Surfeit of Lampreys**
27. What is a Lamprey ?  
**A primitive fish, much like a scaleless, jawless eel**
28. Name a freshwater relative of the Lobster.  
**Crayfish**
29. What do Gin, Kin and Rin mean ?  
**Silver-metallic ; gold-metallic; scale;  
All Koi descriptive terms**
30. What's so special about Moors ?  
**They are always jet black**

## QUIZ QUESTIONS : Coldwater

31. What's a Tanago ?

**Type of Bitterling**

32. Name a once suspected ancestor of the goldfish.

**Crucian Carp**

33. Sunfish come from which Countries ?

**North America and Canada**

34. The Osaka Ranchu differs from the Lionhead in what respect ?

**It has no hood on the head**

35. What does Shiro mean ?

**White**

36. Name the geographical range (north and south extremes) of the Pumpkinseed.

**Quebec (Canada) to Ohio and Iowa (USA)**

37. Which group of Goldfish are usually brought indoors during winter ?

**Twintails**

38. Name a nestbuilding fish from each side of the Atlantic.

**Stickleback ; Sunfish**

39. What is the lowest temperature at which Goldfish feed ?

**45°F**

40. Why won't tropical flake food suit Goldfish ?

**It lacks sufficient carbohydrates**

# ***General Subjects***

## QUIZ QUESTIONS : Breeding

1. Why do some fishkeepers shade the tank when breeding some egg layers ?  
**Because some eggs are sensitive to light**
2. Of what use is Methylene Blue in the hatching tank ?  
**As a bactericide and it also cuts down the amount of light**
3. Why is Infusoria so named ?  
**Because the tiny animals used as food for young fishes are generally made by making an infusion of vegetable material in boiling water**
4. Name two groups of fishes (from opposite sides of the Atlantic) that excavate or construct nests in the sand.  
**African Cichlids and North American Sunfishes**
5. What is the period of time called whilst two fishes are separated and well-fed prior to reunited for spawning ?  
**Conditioning period**
6. Why is it sometimes suggested that more than one female is used per male in spawning ?  
**Because the male may be a too-hectic driver and by having two females they won't be harrassed too much**
7. Apart from an enforced absence, what other factors might ensure a good spawning ?  
**A slight increase (or decrease) in water temperature, a partial water change and plenty of good live foods**
8. How can you prevent any unwanted spawnings spoiling the strain in a livebearer collection ?  
**Put all unsexed, or doubtful, young fish in with the males, where they won't cause any unwanted pregnancies or where, if they do turn out to be females, it won't matter as much as if a rogue male got in with all the females**
9. How do Porcupine Fish spawn ?  
**Very carefully!**
10. The marine Clownfish is very similar to which group of freshwater fishes when spawning ?  
**The Cichlids; it is an egg-depositor**

## QUIZ QUESTIONS : Breeding

11. Give three ways to prevent egg-eating when spawning egg-scatterers.
  - 1) **Layer of marbles on the tank floor**
  - 2) **Shallow water level to cut down the time the eggs are falling and so at risk**
  - 3) **Drape netting in the tank and place the spawning fish in the water on top of it**
  - 4) **Use dense bunches of plants to catch and hide the eggs**
12. What are the signs of an imminent spawning in Cichlids ?
  - 1) **Cleaning a site.**
  - 2) **Spontaneous pairing-up.**
  - 3) **Territory defending.**
  - 4) **The protrusion of ovipositors or breeding tubes**
13. Name five methods of reproduction in aquarium fishes.
  - 1) **Egg-scattering**
  - 2) **Egg-depositing**
  - 3) **Bubble-nest building**
  - 4) **Mouthbrooding**
  - 5) **Livebearing**
14. What must you keep out of the aquarium when raising young Gourami fry?  
**Draughts of cold air**
15. What are two good standby foods for very tiny fry ?  
**Green water, and hard-boiled egg yolk (crushed up in a cloth and squeezed out in the water)**
16. Why are sponge filters preferred for fry tanks ?  
**Because the fry cannot be drawn into them and also the sponge develops microscopic live food on it for the fish to feed on**
17. How can you turn dried food into live food ?  
**Feed to livebearing fishes and wait for their young !**
18. Changing the water quality often has what effect on fry ?  
**It may change the proportion of males/females in the next brood**

## QUIZ QUESTIONS : Breeding

19. How can you slow down the hatching of Goldfish eggs ?  
**Put them in the refrigerator**
20. What is 'hand-stripping ?'  
**The manual 'milking' of eggs and milt from mature Goldfish ; this can be done at separate times and the two products mixed together in a bowl to ensure fertilisation of the eggs occurs. Each 'parent' can be chosen for its best characteristics, and the two fish need not ever actually meet. Shame !**
21. Name two methods of breeding in Killifishes.  
**1) Egg-hanging in plants or mops  
2) Egg-burying in peat**
22. Describe a particular feature peculiar to Discus breeding.  
**The fry eat from the slime on the parents' bodies when first newly-hatched**
23. How do *Corydoras* spawn ?  
**They are egg-depositors**
24. How do Harlequin Fish spawn ?  
**They are egg-depositors**
25. How many broods can a female Guppy, Molly, Platy or Swordtail have from one mating ?  
**Several**
26. Name a Family or group of Livebearers that can only have one brood from each mating.  
**The Goodeidae**
27. How is the anal fin of the male Goodeid different from that of the majority of Livebearer males ?  
**Only the first few rays form the primitive gonopodium, not the whole fin**
28. How does the Chocolate Gourami spawn ?  
**It's a mouthbrooder**
29. How does *Lamprologus brichardi* spawn?  
**It's a cave-spawner, laying eggs on the ceiling**
30. What is the difference between 'Oviparous' and 'Viviparous' ?  
**Oviparous means egg-laying,  
Viviparous means livebearing.**

## QUIZ QUESTIONS : Breeding

31. Which of the following is the odd one out ?  
a) *Betta brederi*  
b) *Betta imbellis*  
c) *Betta macrostoma*  
**c) *Betta macrostoma* builds a bubble nest, the others are mouthbrooders.**
32. How many eggs might be expected from a spawning of *Tropheus moorii* ?  
**Between 6 and 12**
34. Name the odd one out from these: Lyretail, Fighting Fish, Pearl Gourami, Paradisefish, Armoured Catfish.  
**Lyretail - it is an egg-hanger, all the rest build bubble nests**
35. What's an early precaution to take when spawning bubble nesters ?  
**Remove the female immediately after spawning**
36. How can you increase your chances of getting a true pair of cichlids ?  
**Buy several youngsters and let them select mates for themselves**
37. What extra do you need when spawning Bitterlings ?  
**Freshwater Mussels, in which the fish can lay its eggs**
38. What FBAS Class Letter denotes the Breeders' Class ?  
**X ; it may be further sub-divided into X (b-m) for egg layers and X (o-t ) for livebearers**
39. One of these fish is not an egg-scatterer, which is it : Bloodfin, Goldfish, Clown Barb, Harlequin, Scissortail, Rosy Tetra ?  
**Harlequin is an egg-depositor**
40. This male egg-laying toothcarp looks after its young.  
**American Flag Fish, *Jordanella floridae***
41. Which common plant makes an excellent spawn receptor for both tropical and coldwater fishes ?  
**Hornwort, *Ceratophyllum demersum***

## QUIZ QUESTIONS : Breeding

42. Name three species of *Betta* which do not build bubble-nests.  
***Betta brederi, B.pugnax, B.unimaculatus***
43. Why are Mendelian Laws important to the fishkeeper breeding cultivated strains of fish ?  
**Because the Mendelian Laws deal with hereditary factors which affect the next generation of fishes to be spawned**
44. Name two natural waterborne foods excellent for bringing fish into breeding condition.  
**Daphnia and Mosquito (Gnat) Larvae**
45. What is an alevin?  
**Newly-hatched young, usually of the Salmon, or Trout**
46. What is meant by a strain in fishbreeding ?  
**A variety of a species that has been developed by selective breeding and one which breeds true without any recession to its former ancestors.**
47. What do the Dwarf Gourami, Stickleback, Sunfish and *Callichthys* Catfish have in common ?  
**They all build nests of one description or another**



## QUIZ QUESTIONS : Diseases

1. Name the factor most responsible for encouraging fish ailments.  
**Stress**
2. Name the disease whose symptom is the swelling up of the fish's body, with severe protruberance of the scales.  
**Dropsy**
3. How many stages does the Disease 'White Spot' have ?  
**Three - 1) on the fish, 2) as cysts in the aquarium and 3) a free-swimming stage**
4. When is the best time to treat, or eradicate, White Spot ?  
**During the free-swimming stage**
5. Apart from medication, what other 'extra' should be added to the hospital aquarium ?  
**Extra aeration, as many medications use up dissolved oxygen in the water**
6. Name the period of isolation during which all new fish are, or should be, checked for disease.  
**Quarantine**
7. Once any successful cure is finished, what should you do to the fish before returning ot to the main aquarium  
**Acclimatise it back to fresh water again by means of regular, partial water changes**
8. What is the usual cause of Finrot ?  
**Bad aquarium conditions which aggravate a wound or a fin already split**
9. What is the more common name for Exophthalmus ?  
**Pop-eye**
10. What are the signs of Gill-flukes ?  
**The fish pants at the surface, the breathing rate is increased and the gills are held open and appear inflamed**
11. What are the signs of Skin-flukes ?  
**The fish repeatedly scratches itself against plants or rocks**
12. What is the commonest cause of 'shimmying' ?  
**A chilling of the fish**
13. Name a disease that Discus-keepers fear most.  
**'Hole-in-the-Head' disease; for their fish, that is!**

## QUIZ QUESTIONS : Diseases

14. What are most marine fish cures based on ?  
**Copper**
15. Fish Louse and Anchor Worm are examples of what ?  
**Fish parasites, usually attacking pond fish**
16. What is a common method of preventing eggs from fungussing ?  
**Adding some Methylene Blue to the water**
17. What three external features on the body of a freshwater fish gives good clues as to the fish's state of health ?
  - 1) **The fins - they should be erect most of the time.**
  - 2) **Colours should be dense and not patchy or faded.**
  - 3) **No excess of mucus on the body**
18. Would you treat diseased fish in a well-planted tank with Methylene Blue ?  
**No; the cure could damage soft-leaved plants**
19. Would you treat Exophthalmus with Olive Oil?  
**No; although Exophthalmus means Pop-eye, it's a disease not a cartoon character!**
20. How can a fish easily be given medication in liquid form ?  
**Soak some flake food in the medication, and make sure the fish eats it!**
21. Name two ways in which young gourami fry are at risk.  
**From cold draughts of air across the water surface, or from any oily film on the water surface itself**
22. What's the more common name for *Hexamita* ?  
**Hole-in-the-head disease**
23. Why should disease or an increase in snail population occur after adding new plants ?  
**Because the plants were not inspected for snails' eggs or disinfected before use**

## QUIZ QUESTIONS : Diseases

24. What is the main cause of death in beginners' tanks ?  
**Overfeeding - leads to nitrite poisoning**
25. What causes fish to 'hang' at the surface ?  
**Oxygen deficiency, overcrowding or polluted water**
26. The main symptom of 'velvet' is what ?  
**The fish has a 'dusty' look**
27. What causes Gill Flukes ?  
**A flatworm, *Dactylogyrus*, that hooks itself into the fish's gills**
28. What should be your first step to prevent diseases occurring in the aquarium ?  
**Quarantine all new additions**
29. What causes Neon Tetra disease?  
**A small internal protozoan parasite, *Pleistophora***

## QUIZ QUESTIONS : Plants

1. Why is the Madagascar Lace Plant so named ?

**Because it has no tissue between the leaf veins**

2. What genus of plants benefit from a rest period at cooler temperatures each year ?

***Aponogeton***

3. What do you call the root part of *Aponogeton* plants ?

***Rhizomes***

4. Name three plants that anchor themselves to rocks or logs.

**Java Fern ( *Microsorium* ), Java Moss ( *Vesicularia* ), Willow-moss ( *Fontinalis* )**

5. Describe a peculiarity of the Water-Soldier plant.

**It rises and falls in the water according to the time of year**

6. What is the missing word in - Chestnut, - Hyacinth and - Lettuce ?

**Water**

7. What is the only reliable way to identify *Cryptocoryne* ?

**By observing the structure of the flower**

8. What is the difference between the flowers of African and Indian species of *Aponogeton* ?

**Those from India have only one flower spike; African and Madagascar varieties usually have a double-headed flower spike or even more**

9. What type of water plant, up to 6ft across can support weight up to 50 kg ?

**Queen Victoria Water Lily**

10. What is the collective name for primitive red, brown, yellow or green plants ?

**Algae**

11. Fishes breathe out carbon dioxide, when do plants do the same ?

**At night time**

12. What do you use to disinfect plants ?

**Potassium permanganate**

13. What are 'night-bloomers' ?

**Varieties of Water Lilies which flower at night**

14. Where are marginal plants grown ?

**Around the pond on shallow shelves in the water**

## QUIZ QUESTIONS : Plants

15. What is the green substance that allows plants to build food in their cells during daytime ?

**Chlorophyll**

16. What is this process called ?

**Photosynthesis**

17. What did the Frenchman Marliac do which benefitted water gardeners from then on ?

**He developed hardy hybrids of the Water Lily**

18. What plant stems when crushed are supposed to be poisonous to fish ?

***Limnophila (Ambulia)***

19. What do plants need, which the fishkeeper has always been taught to get rid of from the tank ?

**Carbon dioxide**

20. What is the name of the coldwater plant that often catches live food for itself ?

**Bladderwort - *Utricularia species***

21. Why should *Marsilea* be a lucky plant ?

**Because it's called the Four-leaved Clover**

22. The Family Lemnaceae contains a plant which most fishkeepers can't wait to get rid of; what is it ?

**Duckweed**

23. What name do members of the *Ceratopteris* genus usually bear somewhere in their common name ?

**Fern**

24. What do floating plants like Duckweed, Water Lettuce, Water Hyacinth and *Salvinia* have in common ?

**Roots hanging down in the water providing refuge for young fishes**

25. The genus *Echinodorus* is commonly known as ?

**Amazon Swordplants**

26. Do the leaves of *Ludwigia* occur in pairs or singly on the stem ?

**Singly**

27. Which is the odd one out: a) *Ludwigia natans*

b) *Hygrophila polysperma* c) *Nitella gracilis*

**c) Does not root - simply forms a mass in mid-water**

## QUIZ QUESTIONS : Plants

28. Which is the odd one out: a) *Echinodorus tenellus*  
b) *Aponogeton undulatus* c) **Sagittaria subulata**  
**b) The other two have root systems, not a rhizome**
29. What have a) Pistia b) Azolla c) Lemna in common ?  
**They are all floating plants**
30. What common coldwater plants make an excellent spawning medium ?  
**Hornwort - *Ceratophyllum demersum* ;  
Willowmoss - *Fontinalis antipyretica***
31. How does the Amazon Swordplant reproduce ?  
**By runners**
32. Most plants have fine, broad or long leaves; which has *Cabomba* ?  
**Fine leaves**
33. To offset the possibility of green water in a pond, how much of the water surface should you aim to cover with plant life ?  
**Two-thirds**
34. Name the terms used to indicate a) plants growing out of water and b) plants growing completely under water.  
**a) Emerse b) Submerse**
35. Name three services that plants provide in the aquarium.  
**Reduce the carbon dioxide present during tank-lit hours ; inhibit algal growth; provide shade; provide spawning sites; provide refuges for young fish; provide food for vegetarian fishes**

## QUIZ QUESTIONS : Water

1. What does S.G. stand for ?  
**Specific gravity**
2. pH is a measure of what ?  
**Acidity or alkalinity of water**
3. Can you give three ways of softening water ?  
**Dilution with softer water; boiling; ion exchange resins**
4. What is the Specific Gravity of pure water?  
**1.00**
5. Place these seas in ascending order of saltiness  
Caribbean, Indian Ocean, Pacific, Red Sea.  
**Indian, Pacific, Caribbean, Red Sea**
6. Why shouldn't you use carbon in hospital tanks ?  
**It will adsorb the medication**
7. The pH number of pure water is ?  
**pH 7**
8. Evaporation losses in the marine aquarium should be replaced with a) fresh water b) salt water ?  
**Fresh water - the salt content of the water isn't lost in the evaporation process**
9. Name three forms of filtration.  
**Chemical, mechanical and biological**
10. How do you stop water back-siphoning into an air-pump ?  
**Site the pump above the tank, fit a check-valve in the airline or loop the airline a few inches above the tank to form an 'anti-siphon' loop**
11. Name two types of biological filtration.  
**Down-flow and reverse-flow**
12. What piece of equipment produces oxygen with 3 atoms instead of the more normal two ?  
**An ozoniser**
13. What piece of equipment (usually associated with marine aquariums) removes proteins from the water by vigorous aeration ?  
**A protein skimmer**
14. Apart from using ozone, how else can you use to sterilise the aquarium water ?  
**With an Ultra-violet lamp**
15. Is the Specific Gravity of salt-water greater or smaller than that of fresh-water ?  
**Greater - around 1.020 compared to 1.00**

## QUIZ QUESTIONS : Water

16. What chemical makes up the largest proportion of dissolved substances in sea-water ?  
**Salt, Sodium Chloride (Na Cl), about 35 parts per thousand**
17. In general, is the pH of the marine aquarium higher or lower than the freshwater aquarium ?  
**Higher: above pH 8.3, compared with around pH 7.5 for freshwater**
18. What can you use in the saltwater aquarium to help maintain a necessary high pH ?  
**Calcium carbonate, or any calcium-rich materials such as corals**
19. Why should you use all the bag of synthetic salt-mix when making up water for the marine tank ?  
**To ensure that the correct amount of trace-elements are present and not left behind in the bag**
20. Which holds more dissolved oxygen, saltwater or freshwater ?  
**Freshwater**
21. How can you effectively increase the water surface area of the aquarium ?  
**By using aeration to agitate the surface**
22. What gets rid of toxic substances such as ammonia and nitrite in the aquarium ?  
**Bacteria**
23. What happens to water below 4°C ?  
**It gets lighter - that's why ponds freeze at the top**
24. How can you test a sample of aquarium gravel for lime content ?  
**Pour some vinegar over it; if it fizzes then lime is present**
25. The salt content of the oceans are as follows:  
20-37 ppt - Atlantic  
37-40 ppt - Mediterranean  
46 pp - Red Sea  
What is it in the Dead Sea?  
a) 195 ppt b) 210 ppt c) 240 ppt d) 300 ppt  
**c) 240 ppt (parts per thousand)**



## QUIZ QUESTIONS : Water

26. Water is composed of two gases, what are they ?

**Hydrogen and Oxygen**

27. Apart from aerating and distributing water across the tank what else does a spray-bar do ?

**Reduces the water pressure returning from the power filter**

28. To avoid tank pollution what precautions should you take when using wood as a decoration ?

**Use only long-dead wood, boil it, soak it well in changes of clean water until all traces of colour staining the water stops. You can also seal it with polyurethane varnish, although may contain chemicals to deter barnacles**

29. Can you use water straight from the tap ?

**Most people use a dechlorinator or stand the water, with aeration, for a day or so before use**

30. Is there any general guidance to be had about local water conditions ?

**If the fish look alright in your local dealer's tanks they should survive at home. For more specialist advice contact your Water Authority (or local Society) who will be only too pleased to help**

31. What dissolved chemicals cause hardness ?

**Calcium and magnesium salts**

32. What is the chemical symbol for water ?

**H<sub>2</sub>O**

33. What kind of rock is useful to help maintain hard water in freshwater tanks or a high pH in marine tanks ?

**Limestone; it is rich in calcium carbonate**

34. What is a Tunze system?

**A modern filtration system**

35. Killifish owners put this substance in their aquarium water for two reasons. Name the substance and the reasons.

**Peat - to acidify the water; and to provide a spawning medium for egg-burying fishes**

## QUIZ QUESTIONS : Common Names

1. What is the common name of *Gymnopus carapo* ?  
**Banded Knife-fish**
2. What is the common name of *Hyphessobrycon erythrostigma* ?  
**Bleeding Heart Tetra**
3. What is the common name of *Aponogeton fenestralis* ?  
**Madagascar Lace Plant**
4. What is the common name of *Planorbis corneus* ?  
**Red Ramshorn Snail**
5. What is the common name of *Macropodus opercularis* ?  
**Paradise Fish**
6. What is the common name of *Mystus micracanthus* ?  
**Two Spot Catfish**
7. What is the common name of *Geophagus jurupari* ?  
**Earth-eater**
8. What is the common name of *Colisa labiosa* ?  
**Thick-lipped Gourami**
9. What is the common name of *Ceratopteris thalictroides* ?  
**Indian Fern**
10. What is the common name of *Melania tuberculata* ?  
**Malayan Snail**
11. What is the common name of *Enchytraeus buccholtzi* ?  
**Grindal worms**
12. What is the common name of *Echinodorus tenellus* ?  
**Pygmy Chain Sword Plant**
13. What is another common name of *Echinodorus tenellus* ?  
**Micro-Sagittaria**
14. What is the common name of *Barbus everetti* ?  
**Clown Barb**
15. What is the common name of *Brachydanio frankei* ?  
**Leopard Danio**

## QUIZ QUESTIONS : Common Names

16. What is the common name of *Crenuchus spilurus* ?  
**Sailfin Characin**
17. What is the common name of *Stevardia (Corynopoma, Pseudocorynopoma) riisei* ?  
**Swordtail Characin**
18. What is the common name of *Pantodon buccholzii* ?  
**Butterfly Fish**
19. What is the common name of *Nannostomus digrammus* ?  
**Two-striped Pencilfish**
20. What is the common name of the genus *Aplocheilichthys* ?  
**Lamp-eyes**
21. What is the common name of the genus *Crenicichla* ?  
**Pike Cichlids**
22. Give the common name of *Hemigrammus erythrozonus* .  
**Glowlight Tetra**
23. What is the common name of *Hemigrammus nanus* ?  
**Silver-tipped Tetra**
24. What is the common name of *Hasemania marginata* ?  
**Silver-tipped Tetra**
25. What is the common name of *Barbus lateristriga* ?  
**Spanner Barb**
26. What is the common name of *Rineloricaria parva* ?  
**Whiptail Catfish**
27. What is the common name of *Ancistrus dolichoptera* ?  
**Bristle-nose Catfish**
28. What is the common name of *Austrofundulus dolichopterus* ?  
**Sicklefin ; Sabrefin**
29. What is the common name of *Gasterosteus aculeatus* ?  
**Three-spined Stickleback**
30. What is the common name of *Esox lucius* ?  
**Pike**
31. What is the common name of *Luciosoma setigerum* ?  
**Apollo Shark**

## QUIZ QUESTIONS : Common Names

32. What is the common name of *Poecilia vittata* ?  
**Cuban Limia**
33. What is the common name of *Jenynsia lineata* ?  
**One-sided Livebearer**
34. What is the common name of *Sphaerichthys osphromenoides* ?  
**Chocolate Gourami**
35. What is the common name of *Synnema triflorum* ?  
**Water Wisteria**
36. What is the common name of *Barbus chola* ?  
**Swamp Barb**
37. What is the common name of *Barbus daruphani* ?  
**Lemon-finned Barb**
38. What is the common name of *Anabas testudineus* ?  
**Climbing Perch**
39. What is the common name of *Vesicularia dubyana* ?  
**Java Moss**
40. What is the common name of *Utricularia* ?  
**Bladderwort**
41. What is the common name for the Lumbricidae family?  
**Earthworms**
42. What is the common name for *Aequidens pulcher* ?  
**Blue Acara**
43. What is the common name for the Nymphaea family?  
**Water-lilies**
44. What is the common name of *Carassius carassius* ?  
**Crucian Carp**
45. Give two common names for *Astronotus ocellaris*.  
**Oscar, Marbled Cichlid, Peacock Cichlid, Velvet Cichlid**
46. Give another Common name for the 'T' Barb.  
**Spanner Barb**
47. Give another common name for the Island Barb.  
**Checker Barb**

## QUIZ QUESTIONS : Common Names

48. What's another common name for the Tiger Barb ?

**Four-banded Barb**

49. Give the popular name for *Aphyosemion cognatum*.

**Spotted Lyretail**

50. Give the popular name for *Aphyosemion shoutendeni*.

**Golden Lyretail**

51. Why is the Moorish Idol so named?

**Because certain Moslem people venerate them**

52. Why is the Koran Angel so-named?

**Because the patterning on its sides is said to resemble characters from the Koran, the Islamic Holy Book**

## QUIZ QUESTIONS : Scientific Names

1. What is the scientific name of the Silver Rasbora ?  
***Rasbora argyrotaenia***
2. What is the scientific name of the Greater Scissortail ?  
***Rasboras caudimaculata***
3. What is the scientific name of the Moonlight Gourami ?  
***Trichogaster microlepis*** &
4. What is the scientific name of the Blue (Gold) Gourami ?  
***Trichogaster trichopterus***
5. What is the scientific name of Java Moss ?  
***Vesicularia dubyana***
6. What is the scientific name of the Water Rose ?  
***Alternanthera versicolor***
7. What is the scientific name of the two Sailfin Mollies ?  
***Poecilia latipinna* and *P. velifera***
8. What is the scientific name of the Marbled Headstander ?  
***Abramites microcephalus (hypselonotus)***
9. What is the scientific name of the Bloodfin ?  
***Aphyocharax anisitsi***
10. What is the scientific name of the Golden Ear ?  
***Fundulus chrysotus***
11. What is the scientific name of the Firemouth Panchax ?  
***Epiplatys chaperi***
12. What is the scientific name of the Black-lined Tetra ?  
***Hyphessobrycon scholzei***
13. What is the scientific name of the Black Phantom Tetra ?  
***Megalamphodus megalopterus***
14. What is the scientific name of Baby Tears ?  
***Bacopa monnieri***
15. What is the scientific name of Parrot Feathers ?  
***Myriophyllum spicatum***
16. What is the scientific name of the Black Widow Tetra ?  
***Gymnocorymbus ternetzi***

## QUIZ QUESTIONS : Scientific Names

17. What is the scientific name of Velvet Disease ?  
***Oodinium***
18. What is the scientific name of the Madagascar Lace Plant ?  
***Aponogeton fenestralis***
19. What is the scientific name of the Glass Catfish ?  
***Kryptopterus bicirrhis***
20. What is the scientific name of the Siamese Tiger Fish ?  
***Datnioides microlepis***
21. What is the scientific name of the Pearl or Fire Rasbora ?  
***Rasbora vaterifloris***
22. What is the scientific name of the Red-tailed Goodea ?  
***Xenotoca eiseni***
24. What is the scientific name of the Red-finned Shark ?  
***Labeo erythrurus***
25. What is the scientific name of the Argentine Pearlfish ?  
***Cynolebias bellotti***
26. What is the scientific name of the Clown Barb ?  
***Barbus everetti***
27. What is the scientific name of the Archerfish Family ?  
Toxotidae
28. Give the scientific name of the American Flagfish.  
***Jordanella floridae***
29. What is the scientific name for the most popular Molly ?  
***Poecilia sphenops (mexicana)***
30. What does the 'semicinctus' part of *Acanthopthalmus semicinctus* mean ?  
**Half-banded**

## QUIZ QUESTIONS : General Knowledge

1. How many fish have most fish ?  
**7**
2. What is the average water temperature of a tropical community aquarium ?  
**75°F - 24°C**
3. How do human nostrils differ from those of fish ?  
**We use ours to breathe with as well as to smell; fishes only use theirs to smell with**
4. What are airstones usually made of ?  
**Sintered glass**
5. A Gold Brooch needs how many 1st Place Cards ?  
**75**
6. A freshwater loses, or gains water through its skin ?  
**Gains**
7. Why does a marine fish need to drink so much ?  
**To replace water lost through its skin**
8. Not counting Supplements, how many FBAS Booklets are there to date ?  
**25**
9. Name the current President of the FBAS.  
**Bill Rundle (Plymouth A.S.)**
10. How many free FBAS Booklets do new Societies get ?  
**4 - Numbers 5, 6, 7 and 18**
11. What happens to a Shark if it stops swimming, and why ?  
**It sinks because it has no swim bladder**
12. Is a Hydrometer and a *Hydrometra* the same thing ?  
**A Hydrometer measures the density of a liquid, the other is the Water-measurer, a pond insect**
13. How many litres in a gallon ?  
**4.545**
14. Apple-Snails, Splashing Tetras have what in common ?  
**They both lay their eggs out of water**
15. The Carp is a symbol of manliness in which country ?  
**Japan**



## QUIZ QUESTIONS : General Knowledge

16. What colours are the feathers of a Bombay Duck ?  
**It's not a duck, but a dried fish-dish in India**
17. What else is the swim-bladder used for other than to maintain the fish's bouyancy ?  
**As an amplifier for sound-making**
18. Which fish (sex and type) incubates its eggs in a pouch ?  
**The male Seahorse**
19. Name the supposedly prehistoric fish caught alive off the coast of Africa in the 1950s.  
**The Coelacanth**
20. Where do Eels spawn ?  
**Sargasso Sea**
21. Which fishes eat *Hydra* ?  
**Blue Gouramies**
22. Who developed Aquarian fish-food ?  
**Dr David Ford**
23. Where is the British Aquarists' Festival held ?  
**Bowlers', Manchester**
24. Apart from its aquarium, what other water-connected livestock is Edinburgh Zoo particularly proud of, particularly as an important export to other Zoos ?  
**Penguins**
25. Where did London Zoo traditionally obtain its sea-water from for its marine aquariums ?  
**Bay of Biscay**
26. Fishes names ending in 'trewavasae' are named after Dr E.Trewavas. What does the 'E' stand for ?  
**Ethelwynne**
27. What should you exhibit in Class A ?  
**Furnished Aquaria and Aquascapes**
28. The headquarters of Tetra is where ?  
**Melle, West Germany**
29. What is the minimum size of show container ?  
**100mm x 100mm x 100mm or 4 x 4 x 4 inches**

## QUIZ QUESTIONS : General Knowledge

30. Who founded TFH magazines and publications?  
**Dr Herbert Axelrod**
31. What illegal poison is used to collect marine fish ?  
**Potassium cyanide**
32. The number of Rasboras detailed in FBAS Booklet No.16 is: a) 58 b) 61 c) 64 or d) 68 ?  
**64**
33. Name four monthly aquarium magazines.  
**Aquarist & Pondkeeper, Practical Fishkeeping, Practical Fishkeeping Answers, Tropical Fish Hobbyist, Freshwater and Marine Aquarium**
34. In addition to providing protection, what other purpose do scales serve ?  
**Streamlining**
35. Name the row of pierced scales along most fishes' flanks.  
**The lateral line**
36. Name the organs which extract oxygen from the water.  
**The gills**
37. Name two ways how some fishes breathe atmospheric air.  
**By means of the labyrinth organ (which traps gulped air) and also by using swallowed air in the hindgut**
38. Describe superior, inferior and terminal mouths.  
**Turned up, underslung and right on the point of the snout, respectively**
40. How long is a 900mm tank in inches ?  
**36**
41. How heavy is an Imperial gallon of water ?  
**10 lbs**
42. How heavy is an American gallon of water ?  
**8.3 lbs**
43. How many gallons in a cubic foot ?  
**6.25 approximately**
44. What does 'ppm' mean ?  
**Parts per million**

## QUIZ QUESTIONS : General Knowledge

45. Name three types of snail.

**Ramshorn, Malayan, Ampullaria or 'Apple' Snails**

46. Probably the first 'tropical' fish imported into England ?

**The Paradisefish**

47. Describe how we focus our eyes and how fishes do it.

**We alter the shape (curvature) of the eye lens but fish just alter its position relative to the retina**

48. Name three types of worms cultured for food.

**Whiteworm, Grindal-worm, Micro-worm, Earthworm**

49. What is *Artemia salina* ?

**Brine Shrimp**

50. Where shouldn't you 'park' magnetic algae scrapers ?

**Near to any thermostat which use bi-metallic strips - they might interfere with its action**

51. What makes colours in a fish apart from pigmentation ?

**Layers of Guanin below the skin, reflecting colours up through the scales**

52. When was the first London Zoo aquarium opened ?

**1853**

53. Name the Chicago aquarium which once held the record for the number of young in a single brood of Swordtails.

**Shedd Aquarium, and the number was around 270**

54. Can you name a famous aquarium in northern France ?

**Nancy**

55. Name the aquarium in Florida famous for its dolphins ?

**Marineland**

56. What secret group used the shape, or sign, of the fish ?

**The early Christians**

57. Is it possible for fishes to change sex ?

**Yes, but they may only show visual external sexual differences rather than become fully functional opposite sexes. Although where a dominant male (with a harem of females) dies, a female will change sex to replace him**

## QUIZ QUESTIONS : General Knowledge

58. What is the usual material used for airline tubing ?  
**Neoprene**
59. Why wouldn't you use rubber tubing when ozone is used ?  
**It rots rubber quickly - including pump diaphragms**
60. Where is an airpump's air filter, and what is it made of ?  
**In the baseplate of the pump and made of felt**
61. Why not put a airpump in a felt-lined box to silence it ?  
**Because it might overheat through lack of ventilation**
62. What does endemic mean ?  
**Ocurring nowhere else**
63. What have Swordtails, Emperor Tetras and Congo Tetras in common ?  
**Males carry extension rays to the caudal fin**
64. What is MS222?  
**An anaesthetic**
65. How do you use MS222 ?  
**Dissolve in water ; to wake the fish put in fresh water**
66. What does a fish detect through its Lateral Line System ?  
**Vibrations in the surrounding water**
67. What fishes make special use of Lateral Line Systems ?  
**Blind Cave Fish and any other fishes that live in darkness or muddy waters**
68. What fish looks above the water from below, and for what particular reason ?  
**The Archer Fish - to spot perching insects**
69. What particular problem does this fish have to cope with ?  
**The refraction, or bending, of light at the water surface which makes the fish's target appear elsewhere to where it actually is**
70. What fish looks above and below the water - at the same time ?  
**Four-eyes : Anableps sp.**
71. Where are the Rift Valley Lakes ?  
**Africa**

## QUIZ QUESTIONS : General Knowledge

72. Name the three largest Rift Valley Lakes.  
**Lakes Malawi (Nyasa), Victoria, Tanganyika**
73. What are *Anguilla silusae* ?  
**Micro-worms**
74. What is the function of the 'eye-spot' found on, or near, the tail of some fish ?  
**To confuse predators by presenting an alternative attractive (and apparently vulnerable) target**
75. What freshwater fish is first in any fish dictionary ?  
**The Bream, *Abramis* sp.**
76. Why should gravel be sloped down from back to front ?  
**To collect dirt at the front for easy removal**
77. Should heaters be placed vertical or horizontally?  
**Providing they are clear of the gravel (to allow water circulation around them) it doesn't really matter. Combined heater/stat units may be positioned at an angle if too tall for the water depth**
78. Describe 'routine maintenance.'  
**Cleaning the inside front glass, removing dead vegetation, changing filter wool and removing mulm from the bottom**
79. What green food stops fish eating aquarium plants ?  
**Tinned peas, Brussel Sprouts, cabbage, lettuce and spinach leaves softened with boiling water**
80. What is the 'beefsteak' of the fish world ?  
**The Earthworm**
81. In what three ways do male fishes differ from females ?  
**Brighter colours, slimmer, pointed or elongated fins**
82. Name two important basic steps to take when buying and installing a tank.  
**Buy the largest you can afford (to maintain stable water conditions); site the tank on a very firm, level foundation (so that stresses aren't set up which might crack the glass)**

## QUIZ QUESTIONS : General Knowledge

83. What are described as:

a) Ctenoid b) Ganoid c) Maxillary d) Pharyngeal ?

**a, b) Scales c) barbels d) teeth in the throat**

84. What are melanophores ?

**Black pigment cells**

85. What is the 'epidermis' of a fish ?

**Its skin**

86. What two things indicate a surface-feeder ?

**An upturned mouth and a flat back**

87. How can you maintain temperature in a tank during a prolonged power cut ?

**Lag tank in polystyrene, blankets or old newspapers ; stand bottles of hot water (warmed by alternative means ) in the tank, but watch out for overflows !**

88. What primary precaution should you take when making a complete water change and stripping down a tank ?

**Switch off the power first; let heater cool down**

87. An airpump has reduced output - what should you check ?

**That the output valves and the air filter pad aren't clogged or diaphragm damaged**

89. Roughly how much gravel do you need for a normal tank ?

**About a bucketful per square foot of tank base area**

90. Some fish do not have a swim-bladder. Can you name a salt water fish and a freshwater fish which either have no swim-bladder at all or at least only a primitive one ?

**The Shark and the Blockhead Cichlid, *Steatocranus* sp.**

91. What is carotin used for in fish foods ?

**To promote or intensify colour**

92. What are the four Classes of FBAS Judges ?

**A, B, C and Table Show**

## QUIZ QUESTIONS : General Knowledge

93. Why should newly-acquired fish be floated in the tank for a few minutes before release ? Is it
- a) To familiarise the new fish with their surroundings ?
  - b) To familiarise the existing stock to the new fish ?
  - c) To equalise the water temperatures ?
- c)
94. What are the three important factors aquarium lighting ?  
**Intensity, colour spectrum and duration of illumination**
95. How much tank capacity is taken up by for rocks, gravel and plants etc ?  
**About 10%**
96. Which part of the fish's anatomy can be compared to the ballast tanks of a submarine ?  
**The swim-bladder**
97. What feature, more than any other, determines the feeding habits of a fish ?  
**The position of the mouth**
98. What is meant by a 'species tank' ?  
**An aquarium housing one species (or maybe a group of species from a single genus) such as, say, a Barb tank. Also taken to mean setting up a tank for fishes requiring special conditions that would not suit all other fishes**
99. What are the 'Five Twenties' awarded for in single fish Classes ?  
**Size, Body, Colour, Fins and Condition & Department**
100. How do you clean a neglected all-glass tank for re-use ?  
**Fill with strong salt water and leave to soak for a few hours, then wash out thoroughly with fresh water**
101. What is the main use for barbels ?  
**As taste-sensors for finding food on the bottom or in murky waters**
102. How do you convert Fahrenheit to Centigrade (Celsius) ?  
**Subtract 32, multiply by 5, divide by 9**

## QUIZ QUESTIONS : True or False ?

1. The Halfbeaks of the genus *Dermogenys* are livebearers.  
**True**
2. The Blue Acara, *Aequidens pulcher* can produce broods of more than 1,000 young.  
**True**
3. No species of *Synodontis* has ever been bred in captivity.  
**False**
4. The Silver Hatchetfish, *Gasterpelecus sternicla*, can travel about 10 feet through the air.  
**True**
5. The largest Barb, *Barbus tor*, has been reported to grow to 9 feet in length.  
**True**
6. The Giant Danio, *Danio aequipinnatus*, is NOT the largest of Danios.  
**False**
7. *Helostoma temmincki*, grows to only 6 inches.  
**False. The Kissing Gourami can reach 12"**
8. The male Swordtail grows larger than the female.  
**False**
9. The Siamese Flying Fox is more colourful than the ordinary Flying Fox.  
**False - it lacks the bright yellow stripe**
10. All Gouramies and related fishes are bubble-nest builders.  
**False; some are mouthbrooders**
11. The Sardine's scientific name is *Sardina pilchardus*.  
**True**
12. The Pilchard's scientific name is *Sardina pilchardus*.  
**True. The fish is a Sardine when small, a Pilchard when adult**
13. Some catfish are able to identify individual fish by smell.  
**True**
14. Oviparous fishes give birth to live young.  
**False**
15. The Sea Horse is a true fish.  
**True**



## QUIZ QUESTIONS : True or False ?

16. The scales on a Coelacanth differ to those on other fishes.  
**True**
17. The Hatchetfish, *Argyropelecus hemigymnus*, is a marine fish.  
**True**
18. All Mormyrids or Elephant-nosed fishes have a long snout.  
**False**
19. The Butterflyfish, *Pantodon bucchholzi* has been bred in the aquarium.  
**True**
20. Lungfishes can be found in South-East Asia.  
**False**
21. There are over 100 species of Barbs in South America.  
**False; there are no Barbs in South America**
22. *Tilapia* are found in Sri Lanka.  
**True ; but they are there having been deliberately introduced, they are not native fishes**
23. *Badis badis* is a small cichlid.  
**False; it's a member of the Nandidae (Badidae) Family**
24. The largest fish in the world is the Whale Shark.  
**True, but it's not the largest marine animal being smaller than some of the true whales (which are mammals)**
25. Most fish prefer soft/acid water.  
**True**

## QUIZ QUESTIONS : Brainteasers

1. Which native fish could be the most religious ?  
**Pope (Ruffe)**
2. I'm small but easily seen.  
**Glowlight**
3. Use my nose to clear things away.  
**Shovelnose Catfish**
4. A circus performer with a hook  
**Clown (Barb)**
5. I'm usually in a state in America all day  
**Texas Cichlid**
6. I'm in heaven when I'm in water  
**Angelfish**
7. I surround Chickens and Turkeys at Christmas  
**Tinfoil Barb**
8. I'm a precious non-predator  
**Silver Shark**
9. I've got a heavenly body  
**Sunfish**
10. We swarm about the tank  
**Bumble-bee Fish**
11. I was needed in the Garden of Eden  
**Leaf-fish**
12. You can see through me  
**Glassfish**
13. I'm happy without a man  
**Merry Widow**
14. Columbine and me  
**Harlequin**
15. There's two of me in every bird  
**Halfbeak**
16. Use me in embroidery work  
**Needlefish**
17. Oriental pugilist  
**Siamese Fighting Fish**
18. Adam and Eve enjoyed me  
**Paradise (fish)**

## QUIZ QUESTIONS : Brainteasers

19. I'm usually up the pole  
**Flagfish**
20. You can call me Medusa  
**Snakehead**
21. A wily animal that takes to the air  
**Flying Fox**
22. A tramp's shoe might need me  
**Sole**
23. Chopper  
**Hatchet**
24. I follow night  
**Dawn (Tetra)**
25. I can't shoot arrows - it makes me spit  
**Archerfish**
26. I'm sweet stuff  
**Honey (Gourami)**
27. My relatives eat meat but I prefer fruit  
**Pacu**
28. Too old fashioned for stereo  
**Mono**
29. Get out of it!  
**Scat**
30. Gabriel was one  
**Angel**
31. I've broken the law  
**Convict**
32. I'm often peered through  
**Keyhole (Cichlid)**
33. They keep me in the dark  
**Blind Cave fish**
34. Meet me up the Beanstalk  
**Giant (Gourami or Danio)**
35. Me and Quasimodo have the same problem  
**Humpback (Limia)**

## QUIZ QUESTIONS : Brainteasers

36. I've a metal heart in a wooden body  
**Pencilfish**
37. Two fish that make cutting remarks  
**Scissortail and Knife-fish**
38. I'm in the Pope's team  
**Cardinal Tetra ; Bishop Fish**
39. Warned of the Spanish Armada  
**Beacon**
40. Dressed for dinner  
**Penguin**
41. Red body fluid attracts me  
**Piranha**
42. Hardly the right way up  
**Headstander**
43. Mechanics use me  
**Spanner (Barb)**
44. Not always found in the oyster shell  
**Pearl (Danio)**
45. Concorde goes over and through me  
**White Cloud (Mountain Minnow)**
46. The sharper the better  
**Knife Fish**
47. Some hold pints, others only halves  
**Glass (Fish)**
48. A stinging menace when mature  
**Mosquito**
49. You are often told to get this out  
**Finger(fish)**
50. Autumn sees their downfall  
**Leaf-fish**
51. All the stars aim for this  
**Oscar**
52. Opening of the furnace  
**Firemouth**

## QUIZ QUESTIONS : Brainteasers

53. Goes with a long throw  
**Discus**
54. Found in water and musical instruments  
**Reed (Fish)**
55. Eventual destination for caterpillars  
**Butterflyfish**
56. Swimming around in abbattoirs  
**Blood(fin)**
57. They make white or black smoke  
**Cardinal Fish**
58. Unrequited love cause this  
**Bleeding Heart (Tetra)**
59. Olympic Games await my arrival  
**Flame (Tetra)**
60. Schoolboy taunt for spectacle-wearers  
**Four-Eyes**
62. Talking books suit me fine  
**Blind Cave Fish**
63. Economical with the truth or a musical instrument  
**Lyre(tail)**
64. I took part at Agincourt  
**Archer(fish)**
65. I may be real or synthetic  
**Pearl (Danio)**
66. Small people's favourite fish  
**Pigmy Barb**
67. Long-handled weapon  
**Pike**
68. I could refresh your garden in hot weather  
**Spraying Characin**
69. Plant one for an American pie  
**Pumpkinseed**
70. Malone's daughter  
**Molly**

## QUIZ QUESTIONS : Brainteasers

71. Easily seen through  
**X-Ray Fish**
72. Going down the subway or Underground  
**Tube-mouth Pencilfish**
73. Gets in you hair but it's supposed to  
**Combtail**
74. Love fish and a saucer of milk  
**Cat(fish)**
75. I've got a rush of blood to the brain  
**Headstander**
76. Both the Bitterling and strong men need them  
**Muscles (Mussels)**
77. I like classical music  
**Schuberti Barb**
78. We like the circus  
**Clown Barb ; Clown Killi ; Clown Loach**
79. We fly over 15-spined Sticklebacks  
**Seagulls**
80. Umpires in cricket, referees in football, what in bowls ?  
**Goldfish**
81. What fish always gets top marks for size ?  
**Any fish reaching the maximum size**
82. If you throw a blue stone into the Red Sea what does it get ?  
**Wet**
83. I'm happy to lose my mate  
**Merry Widow**
83. I've obtained a commission in the services  
***Botia hymenophysa* ( I'm an Officer! )**
84. This marine Family are great discussionists  
**The Drums**

## QUIZ QUESTIONS : Brainteasers

85. This jet propelled fish's bones are liked by cagebirds

**Cuttlefish**

86. The Lone Star fish

**Texas Cichlid**

87. I get time off for good behaviour

**Convict (Cichlid)**

88. I lost my head in the French Revolution

**Pompadour (Discus)**

89. I've got a sore throat

**Firemouth**

## **QUIZ QUESTIONS : Fish Name Anagrams**

1. Was it lord.
2. Flog dish.
3. Wind caused top.
4. Alder piano.
5. Ton are ten.
6. She fin clip.
7. Arab bent film.
8. Here miss eat fig.
9. Gong silk rump aria.
10. I as sir clots.
11. Gin belch crimp
12. A club area.
13. Now cod tail it when mum union.
14. Of silly milan.
15. Lag she fin.
16. Tiler guy apply.
17. Dash fair pies.
18. Bib garter.
19. Rap hole fat disc.
20. Whole heat arc.
21. Danes red hat.
22. Yap law lit tag.
23. Tall white trogg.
24. Heal Dino.
25. Aisle babel or run.

## **ANSWERS**

1. **Swordtail**
2. **Goldfish**
3. **Upside-down Cat**
4. **Pearl Danio**
5. **Neon Tetra**
6. **Pencilfish**
7. **Filament Barb**
8. **Siamese Fighter**
9. **Sparkling Gourami**
10. **Scissortail**
11. **Climbing Perch**
12. **Blue Acara**
13. **White Cloud Mountain Minnow.**
14. **14.Sailfin Molly**
15. **Angelfish**
16. **Lyretail Guppy**
17. **Paradisefish**
18. **Tiger Barb**
19. **Leopard Catfish**
20. **Weather Loach**
21. **Headstander**
22. **Wagtail Platy**
23. **Glowlight Tetra**
24. **Lionhead**
25. **Blue-line Rasbora**



***D-I-Y  
Quiz  
Suggestions***

# D-I-Y QUIZ SUGGESTIONS

## 1. Visual Audience Quiz

If your Society has access to an Episcopa or a similar overhead projection system, you can devise a visual quiz quite simply.

Taking any of the Federation's Technical Information Booklets or any other source of aquatic subject matter, project any picture (taking care to obscure the fish's name and information!) on to the screen and ask any, or all, of the following questions:

- |  |  |
|--|--|
| a) Common Name ) see Booklets                      | h) suitability for community aquarium ?          |
| b) Scientific Name ) Nos. 9-12                     | i) Food required (Meat, Vegetable, Dried, Live ) |
| c) Family group name (Barb, Characin, Cichlid etc) | j) Sexual differences                            |
| d) Country of origin                               | k) Colouration details                           |
| e) Show Size (see Booklet No.6)                    | l) Temperature                                   |
| f) Show Class (see Booklet No.6)                   | m) Freshwater or marine                          |
| g) Method of breeding                              |  |

Answers can be given in turn (collectively or individually) either verbally or in writing.

A different twist can be added by projecting just a silhouette, or even just parts of the the subject: many fishes and plants (even pieces of equipment) are quite recognisable from a single physical feature.

## 2. Build up a Fish

Build up the identity of a fish from descriptive statements perhaps based on answers above. Maximum points given for the earliest correct identification; points reduce as more 'clues' are given.

Start off with broad statements - South American origin, Characin, Egglayer etc. This quiz can be extended to include plants but the 'clues' may take longer to prepare.

### 3. AQUABUSTERS

Based on a straightforward question and answer format (and on the popular tv Blockbuster series), this allows each team to pick their way across (or up or down) a board of initials.

Each initial represents part of the answer, eg, '**Which 'D' is an exotic Cichlid ?' (Discus)**. Make up a 5 x 5 board of initials: we leave you to guess which initial to leave out, it may take some working out in advance - Hint: there aren't many aquarium subjects beginning with 'Q' !

Another idea: give each box a letter (or combination) corresponding to the FBAS Class Lettering System (Ba, Cz, Dc etc) which immediately opens up the possibilities enormously, as you're not stuck with a specific letter in the actual answer and questions can be based on the whole Class.

For easy staging, make up a blackboard with **Answer Letters** on one side, **Class/Subject Letters** on the other.

#### ANSWER LETTERS

=====  
+ A + B + C + D + E +  
=====  
+ F + G + H + I + J +  
=====  
+ K + L + M + N + O +  
=====  
+ P + Q + R + S + T +  
=====  
+ U + V + W + X + Y +  
=====

#### CLASS / SUBJECT LETTERS

=====  
+ Ag + Ba + Bz + Ca + Cb +  
=====  
+ Cz + Da + Db + Dc + Dz +  
=====  
+ E + F + G + H + J +  
=====  
+ K + L + M + N + O-S +  
=====  
+ T + U-V + W + Y + Z +  
=====

# LAMP ANSWERING SYSTEM

The purpose of the system is to identify who presses their button first. The circuit lights a lamp associated with the first-pressed button and renders the remaining buttons inoperable. The lamp remains lit as an indication to the Quizmaster, who must switch the unit off and on again, to cancel the lamp and 'enable' the next lamp-select sequence.

The device is battery-operated but a low-voltage rectified power supply (via a suitable transformer) may be substituted by the more electronically-practical fishkeeper. The device is easily made (making the master unit box is probably the hardest physical part) but requires some basic electrical skill. Do not attempt to build this if at all unsure of your own capabilities - **ALWAYS SEEK QUALIFIED GUIDANCE.**

**MATERIALS NEEDED**      Bell-wire, Insulating tape, Nuts and bolts,  
   Battery connectors, Switch, Metal box,  
Dry Battery (Lantern Size) to suit the voltage of the relays and lamps used,  
Bell-pushes, Relays, Lampholders, Lamps (according to number of teams).

**ASSEMBLY** (Refer to circuit opposite)

Assembly is straightforward, the relays, indicator lamps and on/off switch being housed in the Quizmaster's control box.

Long pairs of wires (one pair for each team or contestant) led out from the master unit box to the bell-pushes.

When in use, the buttons to each team member should be taped down to prevent the Quizmaster's main unit being pulled off his table in the excitement!

**NOTE:** When not in use the battery should be disconnected.

