

FT 211 Exam 2

1) The reason care and handling of fish is important is because?

- \*a. It can reduce unnecessary harm and mortality to fish
- b. Fish are slippery and special techniques are necessary to hang on to them
- c. Fish slime is harmful to humans and we need to know what proper PPE is necessary
- d. All of the above

2) The following statement about permits is true

- a. There are numerous agencies that issue permits related to fish and fish sampling
- b. Permits need to be applied for well in advance of sampling
- c. Multiple permits may be necessary depending on the type of sampling, location, and organism sampled
- \*d. All of the above

3) When conducting fisheries work for an organization that receives government funding, is a university, or involves federally funded laboratory research, the following permit is necessary.

- \*a. IACUC Institutional Animal Care and Use Committee Permit
- b. ADF&G Fish Resource Permit
- c. ADF&G Fish Transport Permit
- d. US F&WS Endangered Species Permit
- e. None of the above



4)

When collecting fish, shellfish, or aquatic plants not otherwise covered by a sport, personal use, commercial, or aquatic farm license a \_\_\_\_\_ permit is necessary.

- a. IACUC Permit
- \*b. ADF&G Fish Resource Permit
- c. ADF&G Fish Transport Permit
- d. US FWS Endangered Species Permit
- e. All of the above



5)

Which of the following are TRUE about stress in fish. Select all that apply.

- a. Stress is defined as an inability to maintain normal physiological state
- b. Stress reduces survival & the ability to handle other stressors
- c. Stress is caused by handling, the environment and water quality and crowding
- d. Some species are more susceptible to stress than others
- \*e. All of the above

Type: E

6) Name three things that you can do when handling fish to minimize stress and mortality.



7)

Which of the above pictures is the most correct way to handle a fish

- \*a. 1)
- b. 2)
- c. 3)
- d. 4)

8) The slime layer on a fish is primarily to make it slide through the water easier

- a. True
- \*b. False

9) As water temperature increases oxygen solubility (waters capacity to hold oxygen)\_\_\_\_\_

- a. Increases
- \*b. Decreases
- c. Stays the same
- d. Fish have gills they don't need oxygen
- e. None of the above

Type: E

10) List two ways to increase Dissolved Oxygen concentrations

Type: ORD

11) Order the following stages of anesthesia in fish

- a. Tranquilization
- b. Non-response to external stimuli
- c. Loss of equilibrium
- d. Cessation of ventilation
- e. Death

12) The fish anesthetic that is comprised of a white powder and is a carcinogen is

- \*a. MS-222
- b. Clove Oil
- c. Benzocaine
- d. Lidocaine
- e. Ketamine hydrochloride

Type: E

13) List two common pollutants that can stress fish

14) Typically the most important challenge associated with transporting fish is

- \*a. Low Dissolved Oxygen
- b. Extreme temperatures
- c. Rapid temperature change,
- d. Diseases
- e. Intense light
- f. Physical shock

15) Euthanasia is

- a. A way to fix or preserve fish for study later
- b. A way to anesthetize fish
- \*c. A humane way of intentionally ending a fishes life
- d. None of the above

Type: E

16) List one type of Euthanasia

17) Fixing specimens can be helpful for all of the following EXCEPT

- a. Voucher specimens
- b. Unsure identification
- c. Teaching
- \*d. All of the above
- e. None of the above

18) The following is a known carcinogen and caution should be taken when fixing specimens in this manner

- a. ETOH
- \*b. Formalin
- c. CaCO<sub>3</sub>
- d. Skeletonization

19) Genetic samples are best fixed with formalin

- a. True
- \*b. False

20) Passive capture includes all of the following techniques EXCEPT

- a. Entanglement
- b. Entrapment
- \*c. Encirclement
- d. Angling

21) The age of passive capture techniques can be best described as

- a. Relatively new
- b. Been around since the turn of the century
- \*c. Old, like 5000 B.C.

22) Entangling devices are best described by

- a. Fish are snared or tangled in fabric or mesh
- b. Devices may be non-selective
- c. Devices may be fatal
- \*d. All of the above
- e. None of the above

23) \_\_\_\_\_ devices capture organisms that enter an enclosed area through one or more funnel- or V-shaped openings that hinder escape after entrance.

- a. Entanglement
- \*b. Entrapment
- c. Encirclement
- d. Angling

24) Under or over representation of certain Species, Size, or Sex of fish can be described as

- a. Gear efficiency
- \*b. Gear selectivity
- c. Gear loss
- d. CPUE
- e. None of the above

25) Gear efficiency can be impacted by all of the following EXCEPT

- a. Season
- b. Turbidity

- c. Current / Tides
- d. Time of day
- e. Water Temperature
- \*f. All of the above can effect gear efficiency

26) What does CPUE Stand for?

- a. Cumulative per-capita unit effort
- b. Calculated percentage of under exploitation
- \*c. Catch per unit effort
- d. Cost per unit effort
- e. None of the above

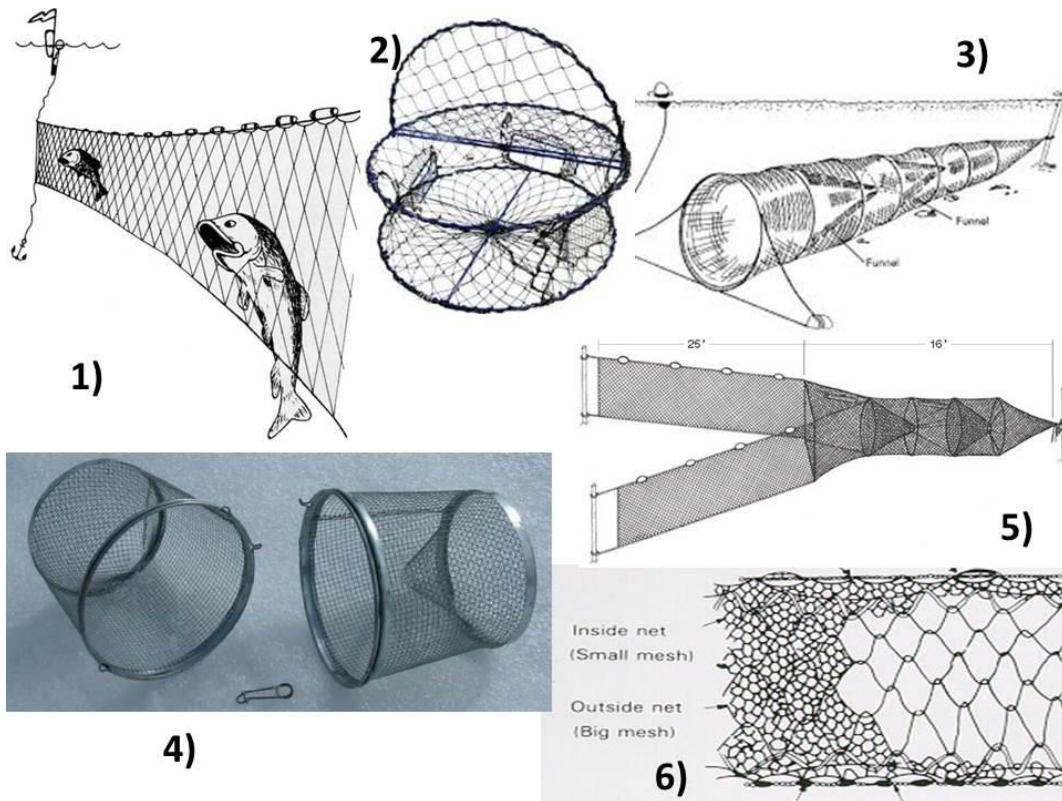
27) Based on the assumption that the number of fish captured is proportional to the amount of effort expended, a change from a High to a Low CPUE while maintaining the same effort could indicate

- a. The gear is not performing as well as it was earlier when catches were higher
- b. the gear is performing better than it was earlier when catches were higher
- c. there is a decrease in fish abundance
- d. there is an increase in fish abundance
- \*e. A & C
- f. B & D

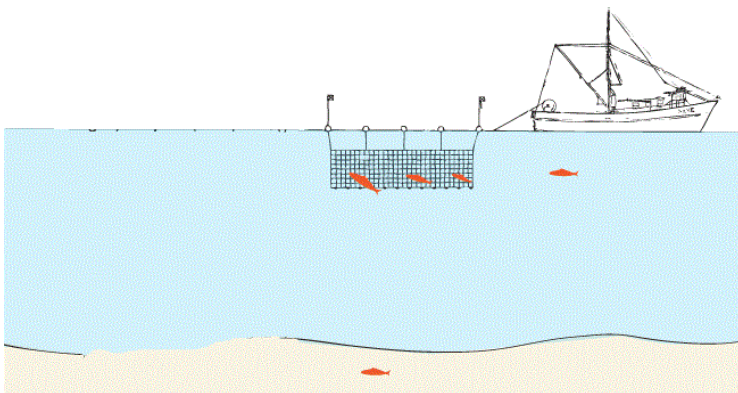
Type: E

28) List two disadvantages to Passive gear

Type: MT

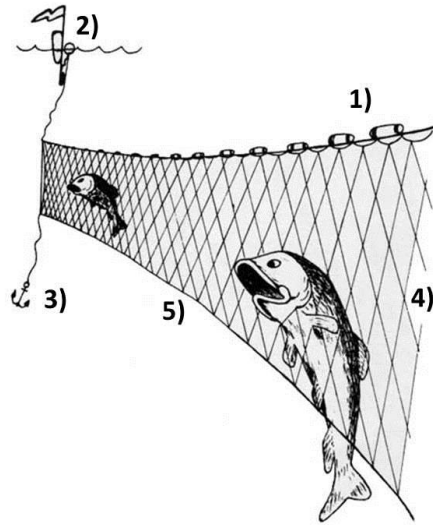


- 29)  
 Match the following with the type of passive capture device
- a. Gill net = 1)
  - b. Trammel Net = 6)
  - c. Hoop Net = 3)
  - d. Fyke Net = 5)
  - e. Crab Pot = 2)
  - f. Minnow Trap = 4)



- 30)  
 The above picture represents what kind of gillnet set
- a. Bottom
  - b. Midwater
  - c. Surface
  - d. Vertical
  - \*e. Drift

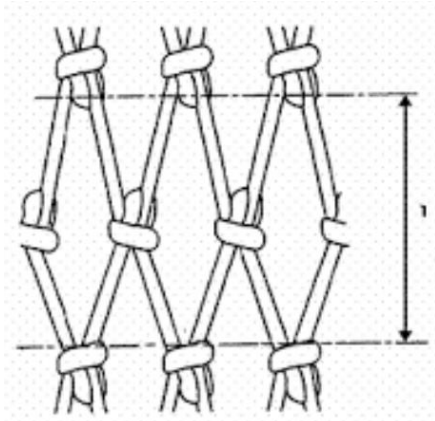
Type: MT



31)

Match the following terms below with the above picture

- a. Cork Line = 1)
- b. Lead Line = 5)
- c. Anchor = 3)
- d. Buoy = 2)
- e. Web = 4)



32)

The above picture represents what kind of net measurement

- a. elasticity
- b. hanging ratio
- c. bar measurement
- \*d. stretch measurement
- e. flex measurement

33) The following passive gear would be best for sampling small fish out-migrating from a shallow stream to the ocean

- a. Gill net

- b. Trammel Net
- c. Hoop Net
- \*d. Fyke Net
- e. Crab Pot
- f. Minnow Trap

Type: E

34) In your own words describe ghost fishing

Type: E

35) Describe active capture, what distinguishes it from passive capture?

36) Which of the following statements are NOT true about active capture techniques

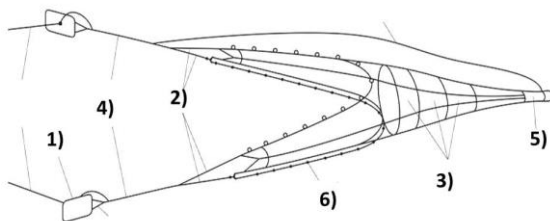
- a. The Main gear types enclose or sweep a specific area
- \*b. Rely on fish encountering and being trapped by gear
- c. Samples can be collected more rapidly but at a cost
- d. Typically two or more people are needed to safely and correctly operate the gear
- e. All of the above are true

37) In science we typically use the same size equipment as commercial fisherman

- a. True
- \*b. False

38) A trawl with a fixed with that is somewhat cumbersome and capable of sweeping a fixed area is a...

- a. Otter Trawl
- \*b. Beam Trawl
- c. Scallop Trawl
- d. Warp Trawl
- e. None of the above



39)

Identify the Cod end on the above picture

- a. 1)
- b. 2)



- c. 3)
- d. 4)
- \*e. 5)
- f. 6)

40) What is likely the largest disadvantage of trawling?

- a. Can't sample irregular bottom
- b. Need a large and powerful boat
- \*c. Bycatch of non-target species
- d. Crossed or twisted doors
- e. None of the above

41) Changing the speed of the boat trawling will change

- a. the depth of the trawl
- b. the angle of the trawl line
- c. how wide the trawl mouth is
- d. None of the above
- \*e. All of the above

42) Beach seines are best used in the following habitats

- a. deep marine habitats
- b. shallow rocky habitats
- \*c. shallow gravel or sandy habitats
- d. riverine habitats with woody debris
- e. Beach seines are suitable for all of the above habitats

43) Purse seines are best used in the following habitats

- \*a. deep marine habitats
- b. shallow rocky habitats
- c. shallow gravel or sandy habitats
- d. riverine habitats with woody debris
- e. Purse seines are suitable for all of the above habitats



44)

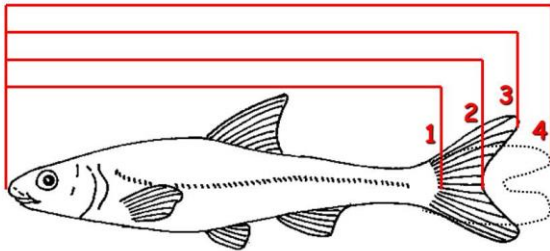
The above is a picture of what kind of net

- a. Push net

- \*b. Neuston Net
- c. Lift nets
- d. Pop Nets
- e. Dip Nets
- f. Cast Nets

45) Length and weight data can give us an estimate of all of the following EXCEPT

- a. Age
- b. Growth
- c. Standing Crop
- d. Production (tissue Growth kg/ha/yr)
- \*e. Species



46)

In the above picture identify standard length

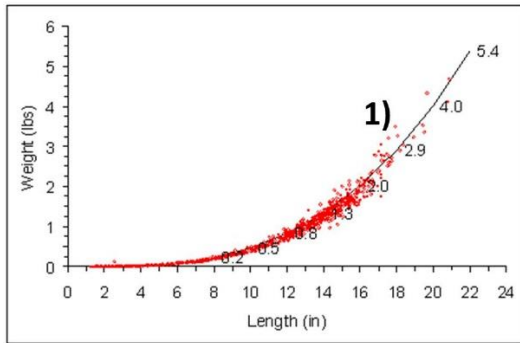
- \*a. 1)
- b. 2)
- c. 3)
- d. 4)

47) The standard way to measure fish is

- a. Head right, tail left, mouth closed
- b. Head left, tail right, mouth open
- c. Head left, tail right, belly up
- d. Head right tail left, belly down
- \*e. None of the above

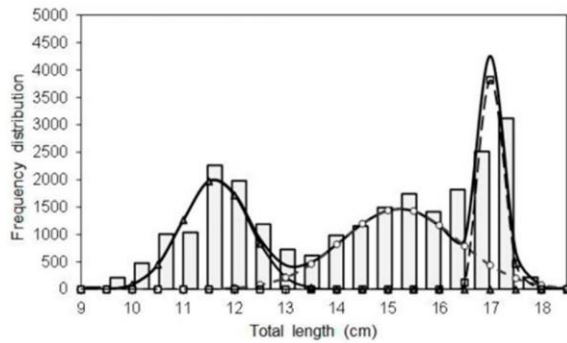
48) When weighing fish there is more error associated with weighing smaller fish

- \*a. True
- b. False



49)

- The fish indicated by the 1) in the above image would be considered to be in \_\_\_\_\_ condition
- \*a. Good
  - b. Poor
  - c. you can't tell condition from length weight data



50)

- Based on the above length frequency histogram you could assume that there are \_\_\_\_ age classes of fish present
- a. 2
  - \*b. 3
  - c. 4
  - d. 5
  - e. 6