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SET 2

GRADE 10 END OF YEAR EXAMS

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

GRADE 10 – MARINE TECHNOLOGY

Time: 2 Hours

LEARNER'S DETAILS

Name: _____. **School:** _____.

Assessment Number: _____. **Date:** _____.

School Code: _____. **Signature:** _____.

INSTRUCTIONS TO CANDIDATES

1. Write your details as required above
2. This paper consists of two sections: A and B.
3. Answer all questions in section A and section B.
4. Answer the questions in English.
5. All answers MUST be written in the spaces provided in the paper.
6. Do NOT remove any page from this question paper.

FOR OFFICIAL USE ONLY

SECTION	SECTION A	SECTION B	% SCORE	EE1	EE2	ME1	ME2	AE1	AE2	BE1	BE2
SCORE RANGE	30 MARKS	50 MARKS		90-100	75-89	58-74	41-57	31-40	21-30	11-20	1-10
POINTS				8 POINTS	7 POINTS	6 POINTS	5 POINTS	4 POINTS	3 POINTS	2 POINTS	1 POINT
LEARNER'S TOTAL SCORE											

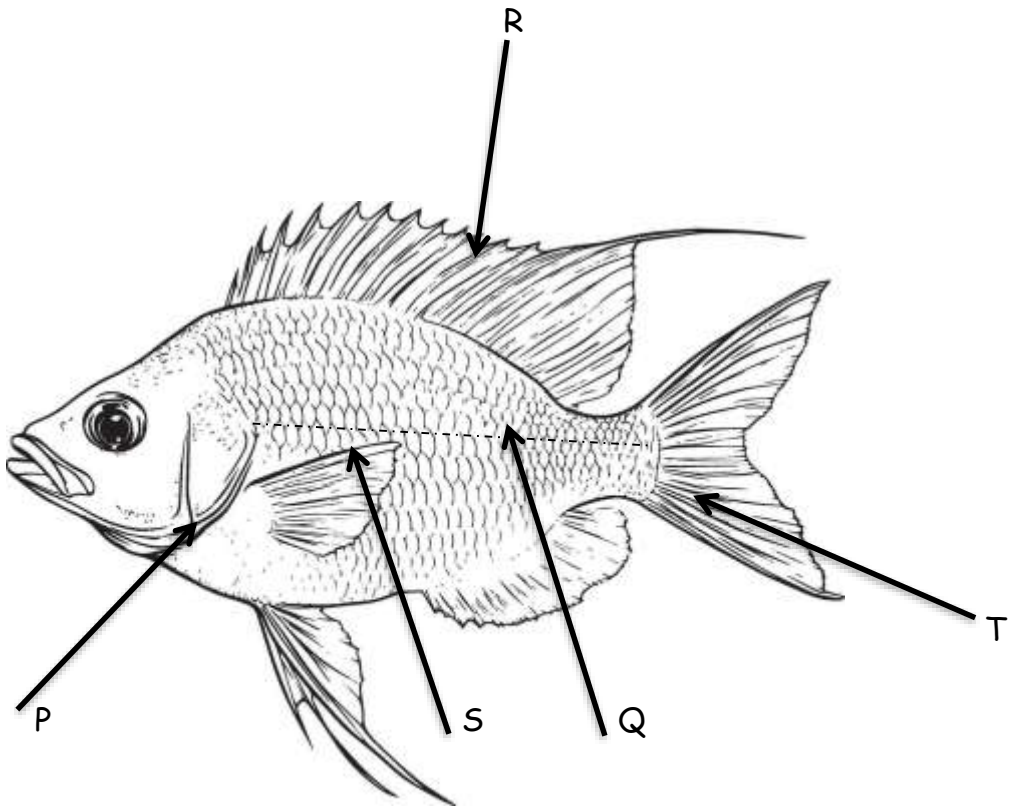
SECTION A (30 MARKS)

Answer ALL questions in this section.

1. The following are Kenyan aquatic ecosystems. Name the ecosystem and state one physical or chemical characteristic.

Image Reference	Name of Ecosystem	One Characteristic
	(a)	(b) Salt-tolerant vegetation
	(c)	(d) High biodiversity
	(e) Estuary	(f) _____

2. Four learners from **Kisumu Day Senior School** are observing a Tilapia. They identified parts P, Q, R, and S.



Identify these parts

(a) **P**: _____

(b) **Q**: _____

(c) **R**: _____

(d) **S**: _____

(e) State the function of **Part T**:

_____

_____

3. Match the professional in Column A with their primary role or description in Column B. **(5 Marks)**

Column A (Career)	**Column B (Role/Description)**
(a) Aquaculturist	(i) Studies chemical composition of seawater.
(b) Marine Biologist	(ii) Manages fish processing factories in Homa Bay.
(c) Fish Quality Assurance Officer	(iii) Designs and manages fish cage systems.
(d) Oceanographer	(iv) Researches coral reef conservation in Diani.
(e) Fisheries Extension Officer	(v) Educates farmers on pond management in Sagana.

4. Stating whether the following statements are **TRUE** or **FALSE (5 Marks)**:

(a) High salinity is a biological characteristic of marine water. [_____]

(b) Cartilaginous fish, like sharks, possess an operculum to cover their gills. [_____]

(c) Aquaculture includes the farming of both fish and aquatic plants. [_____]

(d) The swim bladder helps bony fish maintain buoyancy at different depths. [_____]

(e) Lake Victoria is the largest marine water body in Kenya. [_____]

5. (a) **Define** the term "Capture Fisheries." (2 marks)

_____

_____

(b) **Distinguish** between *Extensive* and *Intensive* aquaculture systems. (4 marks)

Extensive aquaculture	**Intensive aquaculture**

(c) **List** four safety equipments required in a fishing vessel operating in the Indian Ocean. (4 marks)

(i) _____

(ii) _____

(iii) _____

(iv) _____

SECTION B (50 MARKS)

6. Mr. Kamau, a teacher at **Mombasa Senior School**, wants to construct a fish pond. He has three descriptions from his students:

Ali: "The soil should have high clay content to hold water."

Jane: "The land should be gently sloping to allow water to flow by gravity."

Kendi: "We need to clear all vegetation and dig the area to a specific depth."

(a) **Identify** which student is describing "Topography." (1 mark) _____

(b) **Explain** why Ali's description of "Clay soil" is critical for an earthen pond. (4 marks)

i. _____
ii. _____
iii. _____
iv. _____

(c) **Outline** four steps involved in the construction of an earthen lined pond. (4 marks)

i. _____
ii. _____
iii. _____
iv. _____

(d) **Compare** a "Fish Pond" and a "Fish Cage" production system. (6 marks)

Fish Pond	**Fish Cage**

7. During a visit to a landing site in **Malindi**, learners compared a **Tuna fish** and a **ray fish**.

(a) **Identify** the type of skeleton found in a Ray fish. (1 mark) _____

(b) **Stating** two external differences between the two fish. (4 marks)

Tuna	**Rays**

(c) **Explain** the function of the *Lateral Line* found in both species. (3 marks)

i. _____
ii. _____
iii. _____

(d) **Name** the internal organ used by bony fish for breathing. (2 marks)

_____

8. A fishing boat from **Shimoni** experienced engine failure and began to capsize.



(a) **Identify** the safety gear worn by the person in the image. (1 mark)

_____

(b) **Describe** the survival technique shown in the image and explain its purpose. (4 marks)

SURVIVAL TECHNIQUE

_____
_____

PURPOSE

i. _____
ii. _____

(c) **Mention** three common causes of accidents in fishing vessels in Kenya. (3 marks)

i. _____
ii. _____
iii. _____

(d) What is the first-aid treatment for *Sea Sickness*? (2 marks)

_____
_____

9. A group of investors in **Naivasha** are choosing between a *Raceway* and a *Fish Tank* for intensive Tilapia production.



A



B

(a) **Identify** which system is labeled **A** in the image. (1 mark)

_____

(b) **Explain** two economic benefits of aquaculture to the Kenyan economy. (4 marks)

i. _____

ii. _____

(c) **Outline** three challenges facing aquaculture development in Kenya today. (6 marks)

i. _____

ii. _____

iii. _____

(d) Calculate the volume of a rectangular fish tank that is 5m long, 3m wide, and 2m deep. (4 marks)