

**SECTION 1 - SECTION 1**

**Question No.1**

Algal species endosymbiotic to anemones and coral reefs

- Halimeda*
- Synechococcus*
- Cocolithophores
- Zooxanthellae

**Question No.2**

Red sea is because of blooms caused by

- Green algae
- Brown algae
- Trichodesmium erythraeum*
- Red algae

**Question No.3**

The rate of evaporation is more in Bay of Bengal when compared to Arabian sea because

- Strong winds over Bay of Bengal
- More drainage of rivers in Bay of Bengal
- Monsoon winds
- Bay of Bengal is shallow

**Question No.4**

“Niche”

- Role of an organism in space
- role of an organism in a community
- Habitat
- space where an organism occurs

**Question No.5**

A blood pigment containing copper is

- Hemocyanin
- Hemerythrin

- Hemoglobin
- Chlorocruorin

**Question No.6**

Marine biodiversity

- reduces from tropics to polar
- reduces from Polar to tropics)
- increases from tropics to polar
- increases from Polar to tropics

**Question No.7**

Coastal environment is

- similarly productive to open ocean
- more productive than Open Ocean
- equally productive to open ocean
- less productive than open ocean

**Question No.8**

The technical term of "Remote Sensing" was first coined by

- India
- Japan
- USA
- UK

**Question No.9**

Benthos are

- bottom dwelling organisms
- active swimmers
- Passive swimmers
- living in water column

**Question No.10**

Fish oil is recommended for a healthy diet because it contains

- Linoleic acid
- Carboxylic acid
- Alpha-linolenic acid

- Omega-3 fatty acids

**Question No.11**

Ultraviolet light is important because

- It is harmful to marine life, owing to the damage it does to DNA
- It stimulates protein synthesis
- It causes beneficial warming of living tissues
- It helps in photosynthesis

**Question No.12**

Organisms are strongly attached to the rocky substratum by means of

- holdfasts,
- tube feet cementing glands
- byssus threads
- all of these

**Question No.13**

'Thermocline' is

- Depth zone of sudden decline in pressure
- Depth zone of sudden increase in pressure
- Depth zone of sudden decline in temperature
- Depth zone of sudden increase in temperature

**Question No.14**

Salinity is often estimated by chlorinity because

- Chlorine can be separated from the seawater simply by evaporation
- Chlorine is the only major element of seawater
- Chlorine is in constant ratio to sodium and other major elements
- Salinity is not estimated by chlorinity but by sodium concentration

**Question No.15**

The only flowering plants living under the sea

- Salt marsh
- Sea fan
- Seagrass
- Angiosperms

**Question No.16**

Seafans are

- gorgonids
- seahare
- echinoderms
- sponges

**Question No.17**

Branching staghorn coral

- Acropora cervicornis*
- Favites* spp
- Pachyseris* sp.
- Pocillopora* sp.

**Question No.18**

In nature nitrogen is fixed mostly by

- Symbiotic bacteria
- Lightning
- Chemosynthesis
- Denitrifying bacteria

**Question No.19**

Pressure

- neither increases nor decreases with the depth of seawater
- increases with the depth of seawater
- decreases with the depth of seawater
- either increases or decreases with the depth of seawater

**Question No.20**

The enzyme that converts protein into polypeptide is

- Pepsin
- Rennin
- Proteoamylase
- Amylase

**Question No.21**

Opportunistic species

- mostly sessile and sedentary
- rarely sessile & sedentary
- Not sessile & sedentary
- frequently sessile & sedentary

**Question No.22**

World's genetic paradises for mangrove diversity

- Sundarbans, West Bengal, India
- Baimaru, Papua New Guinea
- Bhitarkanika, Odisha, India
- Pichavaram, Tamilnadu, India

**Question No.23**

Two equal high and low tides in a day are called

- Neap tides
- Semidiurnal tides
- Mixed tides
- Diurnal tides

**Question No.24**

Meroplankton are

- phytoplankton
- permanent plankton
- Temporary plankton
- zooplankton

**Question No.25**

Charles Darwin is well known as a great marine biologist because of

- His work on coral reefs
- His classification of the barnacles
- His participation in the voyage of the H.M.S. Beagle
- All of these

**Question No.26**

The two factors that most affect seawater density are

- Oxygen and salinity
- Temperature and oxygen
- Nitrogen and temperature
- Temperature and salinity

**Question No.27**

Exoskeleton of crustaceans are formed of

- Heparin
- Chitin
- Dextrin
- Inuline

**Question No.28**

Change in sex occurs in

- Tridacna gigas*
- Clown fish
- Epinephelus*
- all of these

**Question No.29**

'Tropical rainforest of the oceans' is

- kelp forest
- mangrove ecosystem
- seagrass ecosystem
- coral reef ecosystem

**Question No.30**

Cyanobacteria

- Only occur in chains of cells
- Are capable of nitrogen fixation
- Cannot live in stagnant waters
- Are abundant only in estuaries

**Question No.31**

### Fjords

- Have an open connection with the ocean and are usually well oxygenated
- Always have the same salinity as the adjacent oceanic area
- Are likely to have anoxic bottom waters
- Are never affected by tides

### Question No.32

#### Pelagic habitats

- Are found in estuaries
- Are seaward of the continental shelf
- Are deepwater habitats in shelf canyon
- All of these

### Question No.33

#### Most bioluminescent organisms use

- Luciferin
- Hemerythrin
- Magnesium
- Sodium ion

### Question No.34

#### Phytoplankton

- Animal component of plankton
- Plant component of plankton
- Seaweed
- Seagrass

### Question No.35

#### Cetaceans are

- whales, dolphins, porpoises
- sea otters
- manatees and dugongs
- seals, elephant seals, sea lions and walrus

### Question No.36

The largest single block of mangrove forest is in

- Sundarbans
- Pichavaram
- Muthpet
- Bhitarkanika

**Question No.37**

The first offshore area managed for conservation.

- Gulf of Mannar, India
- Great Barrier Reef, Australia
- Florida Keys, USA
- Darwin mounds, UK

**Question No.38**

Spring tides

- Weak tides
- either strong or weak
- neither strong nor weak
- strong tides

**Question No.39**

The Minemata epidemic was caused by

- Zinc
- Lead
- Mercury
- Cadmium

**Question No.40**

The Coriolis effect causes a deflection to the right in

- The Equator
- The Northern Hemisphere
- The Pole
- The Southern Hemisphere

**Question No.41**

Gas exchange into the fish swim bladder is regulated by

- The hemoglobin in the blood



- The retemirabile
- The gill
- The retina

**Question No.42**

Coral bleaching is mostly due to

- Solar UV radiation
- Elevated sea surface temperature
- Ozone depletion
- Ocean acidification

**Question No.43**

Function of the lateral lines on both sides of fish

- Olfacto receptors
- Photo receptors
- Mechanoreceptors
- Chemo receptors

**Question No.44**

Agar, extracted from

- Red algae
- Yellow algae
- Blue green algae
- Green algae

**Question No.45**

The world's largest seagrass meadow is in

- Great Barrier Reef
- Shark Bay Marine Park of Western Australia
- Palk Bay
- Andaman & Nicobar Islands

**Question No.46**

The species richness in an ecosystem best explains

- Forest density
- Biodiversity

- Richness of species
- Ecosystem

**Question No.47**

'Neritic zone' is

- Rarely with benthic larval forms
- abundant with benthic larval forms
- Frequently with benthic larval forms
- Poor with benthic larval forms

**Question No.48**

All arthropods share

- A calcified external skeleton
- A strictly marine habitat
- An external skeleton composed of chitin
- A calcified internal skeleton

**Question No.49**

Tidal waves are primarily due to

- Wind effect
- Atmospheric effect of the earth
- Gravitational effect of the moon
- Magnetic effect

**Question No.50**

The largest crab in the world

- Uca*
- Portunus pelagicus*
- Macrocheira kempferi*
- Scylla serrata*

**Question No.51**

Trace elements in seawater include

- Iron and strontium
- Sodium and aluminum
- Sodium and chlorine

- Chlorine and potassium

**Question No.52**

Marine species in the benthic environment

- least diverse
- less diverse
- not diverse
- diverse

**Question No.53**

Oceanography

- Study of land
- Study of oceans
- Study of ocean animals
- Study of water

**Question No.54**

The study of microscopic structure of tissues and organs is known as

- Histology
- Pathology
- Endocrinology
- Malacology

**Question No.55**

Animals living in association with the sea surface are called

- Plankton
- Krypton
- Neuston
- Epifauna

**Question No.56**

Nekton

- Are defined as swimmers who can dive very deeply
- Include larger fish and sea mammals
- Move only with the currents
- Include protistan and other very small plankton

**Question No.57**

The giant clam

- Meritrix meritrix*
- Crossostrea madrasensis*
- Tridacna*
- Katelysia opima*

**Question No.58**

The largest brackish water lagoon in Asia

- Muthupet lagoon
- Pulicate lake
- Blue lagoon
- Chilka lake

**Question No.59**

Sea grasses differ from seaweeds

- In living on soft sediment
- In having chlorophyll
- In having the ability to spread asexually
- In having flowers

**Question No.60**

The only blue carbon forest

- Kelp forest
- Saltmarshes
- Seagrasses
- Mangroves

**Question No.61**

Redfield ratio is

- C:N:P ratio of 106:1:16
- C:N:P ratio of 16:1:16
- C:N:P ratio of 106:1:1
- C:N:P ratio of 106:16:1

**Question No.62**



Plankton that spend part of their life cycle in the water column, but live as adults in the benthos are

- Mixoplankton
- Pleuston
- Holoplankton
- Meroplankton

**Question No.63**



As latitude increases, biodiversity generally

- Fluctuates randomly
- Stays the same
- Decreases
- Increases

**Question No.64**



*Nautilus* adjusts its vertical position in the water column by means of

- Delicate projections from the shell that prevent sinking
- Swimming upwards continuously
- Use of low density ions
- Gas secretion

**Question No.65**



Crown-of-thorns star fish

- Acanthaster planci*
- Butterfly fish
- Parrot fish
- Surgeon fish

**Question No.66**



Deep-sea benthos is dominated by

- detritus feeders
- omnivores
- herbivores
- carnivores

**Question No.67**

Bioluminescence occurs mostly in

- neritic water
- deep sea environment
- seawater surface
- shallow coastal sea

**Question No.68**

SCUBA is abbreviated as

- Submarine-contained underwater breathing apparatus
- Self-contained underwater breathing apparatus
- Self-condensed underwater breathing apparatus
- none of these

**Question No.69**

'Mustache of Ravana' is

- Clerodendrum inerme*
- Vitex negundo*
- Ipomea pes-caprae*
- Spinifex littoreus*

**Question No.70**

'La Nino' is

- unusual condition of warm ocean temperatures
- unusual condition of cold ocean temperatures
- usual condition of warm ocean temperatures
- usual condition of cold ocean temperatures

**Question No.71**

Meiofauna have the size range of

- greater than 0.5 mm
- 0.5-0.062 mm
- less than 0.062 mm
- none of these

**Question No.72**

Invasive seaweed to Indian waters

- Ulva sp.*
- Kappaphycus alvarezii*
- Enteromorpha*
- Gracillaria*

**Question No.73**

The largest Marine Protected Area in the world

- Great Nicobar Biosphere Reserve
- Gulf of Kutchch, India
- Mafia Island, Tanzania
- Great Barrier Reef, Australia

**Question No.74**

“Peaceful” ocean is

- Indian Ocean
- Antarctic ocean
- Atlantic ocean
- Pacific ocean

**Question No.75**

Olive Ridley is

- Caretta caretta*
- Eretmochelys imbricate*
- Lepidochelys olivacea*
- Dermochelys coriacea*

**Question No.76**

Pycnoclines are

- Vertical gradients in sea water density
- Vertical gradients in oxygen concentration
- Small scale changes in current structure
- Vertical gradients in temperature only

**Question No.77**

Abundance of plankton

- Decreases with reduced size of organisms
- Increases with reduced size of organisms
- Decreases with increased size of organisms
- Increases with increased size of organisms

**Question No.78**

The abyssal plain

- Drains large river systems such as the Amazon River
- Actually has a slope of 3 degrees seaward
- Never connects with an oceanic trench
- Is an average of about 4000 m depth

**Question No.79**

Larvae of estuarine benthic species

- May leave the estuary but never return
- May leave the estuary, but return depending upon water currents
- Are never planktonic, so as to prevent washout into coastal
- Never leave the estuary

**Question No.80**

A predominant phytoplanker in open ocean

- Prorocentrum
- Prochlorococcus*
- Thalassiothrix*
- Cosinodiscus*

**Question No.81**

Stenohaline species have a

- Narrow range of salinity tolerance
- Narrow range of temperature tolerance
- Wide range of temperature tolerance
- Wide range of salinity tolerance

**Question No.82**

The practice of swimming on or through a body of water equipped with a diving mask

Snorkeling



- 
- bottom water diving
- Open water diving
- Submerging

**Question No.83**

Vestimentiferans can live without a gut because

- They have symbiotic bacteria, which are the source of their nutrition
- They are parasites living within the guts of bivalves
- They are protists
- They live near sources of dissolved organic matter

**Question No.84**

The two strands of DNA are held by

- Sulphide bond
- Phosphate bond
- hydrogen bond
- Oxygen bond

**Question No.85**

Meiobenthos

- Are smaller than microbenthos
- Are smaller than 0.5 mm
- Are greater than 1 mm in size
- Are always epifaunal

**Question No.86**

Catadromous fish

- grow and breed only in seawater
- grow in the seawater and migrate to freshwater for breeding
- grow and breed either in seawater or freshwater
- grow in the freshwater and migrate to seawater for breeding

**Question No.87**

Mangroves

- Are common in high-latitude estuaries

- Have roots that penetrate into the oxygenated sediment below
- Must have roots adapted to the anoxic sediment
- Cannot live in regular sea water

**Question No.88**

An individual seaweed attached to the substratum is known as a

- Blade
- Holdfast
- Stipe
- Thallus

**Question No.89**

Zooxanthellae benefit their coral hosts

- Principally by removing nitrogenous wastes
- Mainly by supplying oxygen in an oxygen-poor environment
- By protecting them from uv light
- By transferring carbohydrates to their hosts, which is used for food

**Question No.90**

The antibiotic penicillin is obtained from

- Fish
- Bacteria
- Virus
- Fungus

**Question No.91**

Sea anemone shares symbiotic relationship with

- Catfish
- Clownfish
- Cardinal fish
- Parrot fish

**Question No.92**

Who discovered the Spreading Sea Floor theory?

- George W. Bush
- Alfred Wegner

- Harry Hess
- Charles Darwin

**Question No.93**

The mesopelagic zone ranges to depths of

- 4000 m
- 2000 m
- 150 m
- bottom of tidal zone

**Question No.94**

Seasonal temperature changes are the greatest in

- The Equatorial region
- Polar waters
- Mid-latitudes
- The deep sea

**Question No.95**

Calanoid copepods are most closely related to

- Krill
- Ctenophora
- Pteropods
- Siphonophores

**Question No.96**

Most bony fish swim continuously

- By undulations of the entire body
- By strong movements of the caudal fin
- By contracting a web of surrounding skin
- By hydro-jet propulsion

**Question No.97**

Keystone species

- Are superior competitors and affect community structure
- Affect community structure by preying on competitively important prey species
- Are found only in the intertidal zone

- Are primary producers

**Question No.98**

Pelagic organisms

- less adapted for their survival
- do not adapt significantly for their survival
- adapt significantly for their survival
- strongly adapted

**Question No.99**

Biological production exceeds respiratory consumption in

- Upper 50 m of the water column of oceans
- Upper 100 m of the water column of oceans
- below 50 m of the water column of oceans
- Below 100 m of the water column of oceans

**Question No.100**

SONAR refers to

- Sound Navigation ranging
- Net used for sampling
- Sound Nautical reference
- Salinity measuring device