

Question Paper Name: 5299 Refresher Course in Marine Science 30th June 2019 Shift 1
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Duration: 180
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Display Marks: Yes

Refresher Course in Marine Science

Group Number : 1
Group Id : 489994215
Group Maximum Duration : 0
Group Minimum Duration : 120
Revisit allowed for view? : No
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Break time: 0
Group Marks: 100

Refresher Course in Marine Science

Section Id : 489994271
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 100
Number of Questions to be attempted: 100
Section Marks: 100
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 489994295
Question Shuffling Allowed : Yes

Question Number : 1 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among the following, which of them have the lowest potential,

- A. Wave energy
- B. Tidal energy
- C. Ocean Thermal Energy conversion
- D. Energy from ocean bio mass

Options :

1. 1

3. 3
4. 4

Question Number : 2 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

OTEC uses the following difference,

- A. Temperature
- B. Pressure
- C. Density
- D. Energy

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 3 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following ocean energy sources are NOT suitable for utilisation for countries near the equator?

- A. Only Ocean Thermal Energy conversion
- B. Only wave energy
- C. Ocean Thermal Energy conversion and wave energy
- D. Offshore wind energy

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 4 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What are the by-products of OTEC?

- A. Warm water
- B. Cold water
- C. Ammonia vapour
- D. Gases

Options :

- 1. 1
- 2. 2

Question Number : 5 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

OTEC turbine works at,

- A. High pressure & high temperature
- B. Low pressure & low temperature
- C. High pressure and low temperature
- D. Low pressure and high temperature

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 6 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is one of the fastest warming areas on Antarctica.

- A. Dronning Maud Land
- B. Antarctic Peninsula
- C. East Antarctica
- D. South Pole

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 7 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Topographic features where the ice shelves are grounded locally on the elevated seabed are

known as _____.

- A. Ice rumple
- B. Sastrugi
- C. Ice rise
- D. Ice tongue

Options :

- 1. 1
- 2. 2
- 3. 3

Question Number : 8 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Dakshin Gangotri station in Antarctica was built in _____.

- A. 1989
- B. 1998
- C. 1983
- D. 1911

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 9 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The first Indian expedition to South Pole was held in _____.

- A. 1981
- B. 2010
- C. 2007
- D. 1989

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 10 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Indian glaciological projects in Antarctica are undertaken at _____.

- A. Dronning Maud Land
- B. Enderby Land
- C. South Pole
- D. Wilkes Land

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

What is the limitation in development of marine natural products for therapeutic applications?

- A. Marine natural products are not effective
- B. Marine natural products are expensive
- C. There is a short supply of starting material
- D. Marine natural products are toxic

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 12 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which is the first drug in medical use from marine source?

- A. Ara-A Vidarabine
- B. Gemcitabine
- C. Penicillin
- D. Discodermolide

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 13 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Plitidepsin an anti-cancer drug for treating acute lymphoblastic leukemia was discovered from,

- A. Ascidian *Aplidium albicans*
- B. Sponge *Discodermia dissolute*
- C. Sponge *Cryptotethya crypta*
- D. Bryozoan *Bugula neritina*

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 14 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical



- A. Cancer
- B. Infections
- C. Diabetes
- D. Inflammation

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 15 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many marine derived drugs are presently in market?

- A. Less than 5 drugs
- B. More than 50 drugs
- C. Less than 10 drugs
- D. More than 25 drugs

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 16 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The time scale of overturning circulation is approximately,

- A. 1 year
- B. 1 million year
- C. 1000 years
- D. 1 day

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 17 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- content,
- A. Increases
 - B. Decreases
 - C. Remain same
 - D. Becomes uniformly

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 18 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The depth range of NADW is,

- A. 0 – 1000 m
- B. 4000 – 5000 m
- C. 0 – 100 m
- D. 1000 – 3000 m

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 19 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the deep ocean the balance of forces is primarily between,

- A. Coriolis force and friction
- B. Coriolis force and pressure gradient force
- C. Pressure gradient force and friction
- D. Friction and tidal Forces

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 20 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. 5 MW
- B. 500 PW
- C. 5 PW
- D. 5 KW

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 21 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are NOT properties of complex systems?

- A. Linearity
- B. Nonlinearity
- C. Chaotic behaviour
- D. Organisation into patterns

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 22 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements holds FALSE for drifter trajectories?

- A. Drifter trajectories exhibit some features of linear dynamics.
- B. Drifter trajectories exhibit some features of nonlinear dynamics.
- C. Drifter trajectories exhibit features of both linear and nonlinear dynamics.
- D. Drifter trajectories are not amenable to analysis.

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 23 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. There is possibility of making predictions.
- B. It is not possible to gain insight into the functioning of linear systems.
- C. Linearity limits the prediction horizon.
- D. Linear systems exhibit no patterns.

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 24 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Why is data assimilation used in forecasting?

- A. Nonlinearity limits the prediction horizon and data assimilation is required to correct the model drift.
- B. Models cannot be run without data assimilation.
- C. Models are not sensitive to initial conditions.
- D. Models are independent of initial conditions.

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 25 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Data from acoustic Doppler current profilers show that,

- A. Intraseasonal variability is negligible for the WICC compared to the seasonal cycle.
- B. Intrapersonal variability is weaker for the WICC than the seasonal cycle.
- C. Intraseasonal variability is stronger for the EICC compared to the seasonal cycle.
- D. Intraseasonal variability is weaker for the EICC than the seasonal cycle.

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 26 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Moored buoys
- B. Drifting buoys
- C. Satellite data
- D. Ocean gliders

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 27 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Open ocean sea level is measured using which satellite sensor,

- A. Scatterometer
- B. Altimeter
- C. Ocean sat
- D. Resoursat

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 28 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which are the following satellite sensors cannot provide SST during clouds,

- A. Infrared
- B. Microwave
- C. Radio wave
- D. X-rays

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 29 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Depth, temperature and conductivity
- B. Pressure, salinity, temperature
- C. Pressure, conductivity, temperature
- D. Density, temperature, salinity

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 30 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following sensor is not remote sensing instrument?

- A. HF Radar
- B. Altimeter
- C. Scatter meter
- D. Ocean Glider

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 31 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which instrument can record the arrival of Shear waves?

- A. Hydrophone
- B. Son buoy
- C. Ocean-bottom seismometer
- D. Streamer cable

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 32 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Bubble oscillation
- B. Reflection from subsurface
- C. Reflection from seabed
- D. Reflection from sea-surface

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 33 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a good source of hydrocarbon,

- A. Sandstone
- B. Limestone
- C. Organic rich mud
- D. Organic poor mud

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 34 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which interface has the largest impedance contrast?

- A. Shale/Sandstone
- B. Seawater/Hard Sea bottom
- C. Seawater/Soft Sea bottom
- D. Air/Seawater

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 35 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Anticline shaped dome
- B. Impermeable fault zone
- C. Salt diapirs dome
- D. Localized sand bodies

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 36 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of these is a DNA based diagnostic method in aquaculture,

- A. Microscopy
- B. Polymerase Chain Reaction (PCR)
- C. Biochemical method
- D. All the three

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 37 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of these is a live feed used to rear larvae in aquaculture?

- A. Fish
- B. Chicken
- C. Artemia
- D. Honey bee

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 38 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. 100%
B. 50%
C. 77%
D. 98%

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 39 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Organisms from which one of these has a more scope for bioprospecting?

- A. Marine environemnt
B. Terrestrial environment
C. Freshwater environment
D. None of the above

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 40 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which can be used as an alternate to antibiotics?

- A. Filtered sea water
B. Antimicrobials from microbes
C. Fresh fish
D. Fresh shrimp

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 41 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Carbon dioxide
B. Radon
C. Krypton
D. Oxygen

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 42 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the oxygen minimum ozone layer, the concentration of nitrate and dissolved inorganic carbon,

- A. Decreases both
B. Increases both
C. Nitrate increases but dissolved inorganic carbon decreases
D. Nitrate decreases but dissolved inorganic carbon increases

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 43 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following oxygen bound form is preferred to reduce to get oxygen in the anoxic zone?

- A. Iron oxide
B. Sulfate
C. Carbon dioxide
D. Water (H₂O)

Options :

1. 1
2. 2
3. 3
4. 4

Question Number : 44 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Ammonium
- B. Nitrous oxide
- C. Nitrate
- D. None of above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 45 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What are the impacts of oxygen minimum zone on ecosystem?

- A. Decrease in bio-diversity
- B. Fish killing
- C. Fish migration
- D. All the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 46 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mytilopsis sallei is a,

- A. Starfish
- B. Bivalve
- C. Tube Worm
- D. Sea Cucumber

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 47 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

is,

- A. Light requirement of the organism
- B. Sturdy nature of the organism
- C. Favorable incubating condition
- D. Capability to form resting stage

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 48 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The reporting of paralytic shell fish poisoning cases in the southern hemisphere from the year 1970 to year 2000,

- A. Increased in the recent years
- B. Decreased in the recent years
- C. Remains a constant
- D. Has no trend

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 49 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Domoic acid is the toxin responsible for,

- A. Diarrhetic shell fish poisoning
- B. Amnesic shell fish poisoning
- C. Paralytic shell fish poisoning
- D. Ciguatera shell fish poisoning

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 50 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Target species is wide spread
- B. Target species is harmful and wide spread
- C. Target species is confined to very limited range
- D. Target species is harmless and wide spread

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 51 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the northern hemisphere, the cyclonic winds near the coast on the right side of the cyclone track are usually,

- A. Offshore winds
- B. Onshore winds
- C. Alongshore winds
- D. Northerly winds

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 52 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the Bay of Bengal, most of the cyclones originate in the region of,

- A. Head-bay region
- B. Southwest Bay of Bengal
- C. Andaman Sea
- D. Northwest Bay of Bengal

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 53 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

landfall on left side of the coast experiences,

- A. A decrease
- B. An increase
- C. Neither increase nor decrease
- D. May increase or decrease

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 54 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The direction of the cyclonic winds in the southern hemisphere is,

- A. Anti-clockwise
- B. Clockwise
- C. Parallel to the cyclonic track
- D. Either clockwise or anti-clockwise

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 55 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Assume an idealized ocean with a uniform depth and a straight-line coast on one side of the ocean. In this case, generation of storm surges along the coast due to an impinging cyclone depends on,

- A. Cyclonic wind distribution
- B. Speed of the cyclone
- C. Ocean characteristics
- D. Both (a) and (b)

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Which is not true for bottom simulating reflector,

- A. BSR reflection that roughly parallels the seafloor reflection
- B. BSR is caused by the contrast between an overlying gas hydrate and underlying gas-saturated sediments
- C. BSR is caused occasionally by opal transition.
- D. BSR is caused by sand and clay transition

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 57 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

BSR is identified by,

- A. Cross cut the back ground topography
- B. P-wave amplitude polarity reversal
- C. Reflection mimicking the sea floor
- D. All of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 58 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Electrical resistivity characteristic within the methane hydrate zone,

- A. Decreases
- B. Increases and fluctuates depending on hydrate saturation
- C. Remain constant
- D. Increases

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Which is not true for chloride anomaly?

- A. Cl^- anomaly results from decrease in pore water salinity due to methane hydrate thawing
- B. Cl^- anomaly results from increase in pore-water salinity due to methane hydrate crystallization
- C. Microbially mediated sulfate reduction
- D. Fresh water release by change in clay mineralogy

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 60 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Methane hydrate exploitation uses the technology involving,

- A. Depressurization
- B. Thermal degassing
- C. Addition of chemical additives like glycol
- D. All of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 61 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statement is TRUE,

- A. From low tide to high tide soft bodied organisms increase
- B. From low tide to high tide soft bodied organisms decrease
- C. From low tide to high tide hard shelled organisms decrease
- D. From low tide to high tide soft bodied organisms remain unchanged

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Which is the most important stress intertidal organism's experience?

- A. Salinity
- B. Pressure
- C. Dessication
- D. Food

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 63 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The planktonic marine invertebrates are _____.

- A. Autotrophic
- B. Chemosynthetic
- C. Heterotopic
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 64 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which environment higher numbers of tropic levels are found?

- A. High nutrient
- B. Low nutrient
- C. Moderate nutrient
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 65 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

- A. Meroplankton
- B. Holoplankton
- C. Bthyplankton
- D. Nanoplankton

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 66 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What does light emitted as foward scatter (FSC) measure,

- A. Cell size
- B. Cell granularity
- C. Cell surface marker fluorescence
- D. Cell complexity

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 67 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ part of the cytometer brings the cells to the interrogation point where the cells meet the laser,

- A. Electronics
- B. Fluidics
- C. Optics
- D. All the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 68 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

cells in environmental samples,

- A. FISH
- B. MALDI TOF/TOF
- C. HPLC
- D. All the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 69 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ has the potential to quantify, characterize and identify small to large biomolecules,

- A. Flowcytometry
- B. LC-MALDI-TOF/TOF Mass Spectrometer
- C. GC-MS
- D. All the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 70 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among different signal molecules, ----- are a well-known class in chemical communication in aqueous environments,

- A. Carbohydrates
- B. Lipids
- C. Peptides
- D. All the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 71 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Is species dependent
- B. Is globally constant for all species
- C. Is constant during all seasons
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 72 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following microfossils can be used to reconstruct past climate in a core collected below the

calcium carbonate compensation depth,

- A. Planktic foraminifera
- B. Calcareous benthic foraminifera
- C. Radiolaria
- D. Ostracodes

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 73 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The tropical sea surface temperature during the last interglacial was,

- A. $\sim 5^\circ\text{C}$ warmer than pre-industrial temperature
- B. $\sim 5^\circ\text{C}$ cooler than pre-industrial temperature
- C. $\sim 1-2^\circ\text{C}$ warmer than pre-industrial temperature
- D. Same as preindustrial temperature

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 74 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Increased during the last glacial interval
- B. Decreased during the last glacial interval
- C. Did not change during the glacial interval
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 75 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Increase in sea surface temperature by 1°C,

- A. Enriches $\delta^{18}\text{O}$ of surface dwelling planktic foraminifera, *Globigerinoides ruber* by ~0.2‰
- B. Depletes $\delta^{18}\text{O}$ of surface dwelling planktic foraminifera, *Globigerinoides ruber* by ~0.2‰
- C. Does not affect $\delta^{18}\text{O}$ of surface dwelling planktic foraminifera, *Globigerinoides ruber*
- D. Enriches $\delta^{18}\text{O}$ of surface dwelling planktic foraminifera, *Globigerinoides ruber* by ~1.2‰

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 76 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Minimum number of seismograms required to detect the location of earthquake is,

- A. Two
- B. Four
- C. Three
- D. Six

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 77 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. S-wave
- B. Raleigh wave
- C. Love wave
- D. P-wave

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 78 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An whole number increase in magnitude of earthquake corresponds to,

- A. An increase of about 31.6 times the amount of energy released
- B. Twice the amount of energy released
- C. Ten times the amount of energy released
- D. Hundred times the energy released

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 79 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Tsunami is detected using,

- A. Seismogram
- B. Global Positioning System (GPS)
- C. Anemometer
- D. Sea level gauge

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 80 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Height of tsunami wave
- B. Speed of tsunami wave
- C. Displacement of seafloor
- D. Magnitude of earthquake

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 81 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of these is a DNA based diagnostic method in aquaculture,

- A. Microscopy
- B. Polymerase Chain Reaction (PCR)
- C. Biochemical method
- D. All the three

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 82 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How a simple sessile sea creature does survive in space competition?

- A. by moving from one place to another
- B. By using physical defense
- C. By using chemical weapons
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 83 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Aerator
- B. Aquarium
- C. Filter
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 84 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Organisms from which one of these has a more scope for bioprospecting?

- A. Marine environment
- B. Terrestrial environment
- C. Freshwater environment
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 85 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which can be used as an alternate to antibiotics?

- A. Filtered sea water
- B. Antimicrobials from microbes
- C. Fresh fish
- D. Fresh shrimp

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 86 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Light
- B. Turbidity
- C. Salinity
- D. Nutrients

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 87 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In bottom up approach, the diversity is controlled by,

- A. Primary productivity
- B. Light
- C. Salinity
- D. Consumers

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 88 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The diversity in the deep sea ecosystem is regulated by,

- A. Upwelling
- B. Sinking
- C. Heterogeneity
- D. Grazing

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 89 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Upwelling
- B. Advection
- C. Downwelling
- D. Diffusion

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 90 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Removal of top predators from the habitat has a cascade effect on the,

- A. Carnivores
- B. Predators
- C. Consumers
- D. All organisms down the food chain

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 91 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which are the bands involved in band-ratio algorithm to retrieve Chl-a from Case I waters,

- A. Blue and Green
- B. Green and red
- C. Blue and red
- D. Blue and yellow

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 92 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. It over-estimate Chl-a in these waters
- B. It underestimates Chl-a in these waters
- C. CDOM doesn't absorb short wave radiations
- D. None of the above

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 93 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In OCM and SeaWiFS sensors, which band is designed for CDOM retrieval?

- A. 443 nm
- B. 412 nm
- C. 670 nm
- D. 740 nm

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 94 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which are the two wavelengths, employed for Chl-a algorithm (GU-C2) for case II waters,

- A. 663 nm and 620 nm
- B. 620 nm and 690 nm
- C. 712 nm and 663 nm
- D. 663 nm and 680 nm

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 95 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. The case II waters are non-linear in nature. Energy from the same wavelength range is shared by different OACs.
- B. Chl-a absorbs non-linearly
- C. TSM alone will be the other OAC to absorb the energy required for Chl-a
- D. Water molecule is responsible to absorb energy between 400 nm and 550 nm

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 96 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The salinity in the Arabian sea and Bay of Bengal are not same, why so?

- A. Monsoon is strong in Arabian sea.
- B. Many rivers discharge to Bay of Bengal compared to Arabian sea
- C. Number of islands in Andamans are more than Lakshadweep
- D. Under water seismic events near Andamans

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 97 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What affects the climatic conditions of land mass?

- A. Ocean temperature
- B. Sea tides
- C. Global Warming
- D. Ocean currents

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 98 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

- A. Climatic conditions
- B. The difference in temperature between surface and bottom of the sea
- C. Economic factors
- D. Environmental considerations

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 99 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which year was the first OTEC plant setup in the world?

- A. 1960
- B. 1979
- C. 1989
- D. 1999

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Number : 100 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the most important challenge in setting up of OTEC plant?

- A. Heat exchangers with low thermal gradient
- B. Deployment of nearly 1 km long pipe
- C. Protecting the environment
- D. Infrastructural cost

Options :

- 1. 1
- 2. 2
- 3. 3
- 4. 4