

SECTION 1 - SECTION 1

Question No.1

The separation of two different communities is

- Ecotone
- Resistance
- Edge effect
- Ecade

Question No.2

The National Biodiversity Authority is located in

- Thiruvananthapuram
- Bangalore
- Delhi
- Chennai

Question No.3

Undisturbed and legally protected zone of biosphere reserve is

- Core zone
- Buffer zone
- Transition zone
- Both A & B

Question No.4

In a pond ecosystem, the top area where the production is greater than respiration is termed as

- Limnetic zone
- Profundal zone
- Tidal zone
- Benthic zone

Question No.5

Match the following

Dispersion of population with characteristics

A) Randomly spaced population – i) In response to uneven distribution of resources

B) Uniformly spaced population – ii) Do not interact strongly with one another

C) Clumped population - – iii) Result of competition for resources

- A) – iii, B) – ii C) – i
- A) – ii, B) – iii C) – i
- A) – ii, B) – i C) – iii
- A) – iii, B) – i C) – ii

Question No.6

Eutrophication by sewage pollution refers to the

- Nutrient depletion of freshwater bodies

- Nutrient enrichment of freshwater bodies
- Biomagnification of pollutants
- Toxic chemical accumulation in freshwater bodies

Question No.7

Which one of the following countries has the highest biodiversity?

- South Africa
- Malaysia
- India
- South America

Question No.8

The result of non-disjunction is

- YY and XY
- X and Y
- XY and XO
- XY and XXY

Question No.9

The earliest treaty used the term 'census' for the first time in India is

- Akbaranama
- Rajtarangini
- Ain-e-Akbari
- Arthashastra

Question No.10

Sargasso sea is named after an algae *Sargassum* which is a

- Brown algae
- Blue green algae
- Green algae
- Red algae

Question No.11

Which of the following can be used to distinguish a nematode worm from an annelid worm?

1. type of body cavity
2. number of muscle layers in the body wall
3. presence of segmentation
4. number of embryonic tissue layers
5. shape of worm in cross-sectional view

- 1, 2, and 3
- 2 and 3
- 2 only
- 1, 2, 3, and 5

Question No.12

Connect the statement A with statement B

Statement A: There are no predators that subsist on lions or eagles

Statement B: Biomass of these animals is simply insufficient to support another tropic level

- Both statements are incorrect
- Statement A is incorrect; Statement B is correct
- Statement B is the incorrect explanation to statement A
- Both statements are correct; Statement B is the correct explanation to statement A

Question No.13

One of the following factors that could lead to variations in the offspring of asexually reproducing organisms is

- Mutation.
- Crossing over.
- Independent assortment
- Fertilization.

Question No.14

The forest that contains commercially important trees like ebony, mahogany, rosewood and rubber is

- Tropical Deciduous Forests
- Tropical Thorn Forest.
- Montane Forest
- Tropical Rain Forests

Question No.15

The term "Ecology" was coined by:

- John Ray
- W.M. Stanley
- Carl Correns
- Ernst Haeckel

Question No.16

Which of the following survivorship curve is suitable for the organisms who breeds several times during the course of their life span?

- Type III
- Type I
- Type II
- Type IV

Question No.17

The organism that is not used as a biopesticide is

- Nuclear Polyhedrosis Virus (NPV)
- Bacillus thuringiensis*
- Trichoderma harzianum*
- Xanthomonas campestris*

Question No.18

Which one of the following is a secondary air pollutant?

- Ozone
- Sulphur dioxide
- Carbon monoxide

- Carbon dioxide

Question No.19

The first census held in India?

- 1872
- 1871
- 1874
- 1870

Question No.20

Food chains are linked together to form

- energy transfer
- food niche
- ecological niche
- food web

Question No.21

One of the following is not a biofertilizer

- Azotobacter*
- Azospirillum*
- Trichoderma*
- Rhizobium*

Question No.22

Factor NOT seemed to increase the likelihood of a population's extinction

- Isolation from sources of immigrant
- Large population size
- Genetic variation
- Low resource availability

Question No.23

Some seeds are aerodynamically designed to be blown long distances by the wind. This adaptation indicates

- Biotic potential
- Human effect
- Population dynamics
- Dispersal mechanism

Question No.24

The energy flow in an ecosystem is

- In any direction
- Always unidirectional
- Always bidirectional
- None of the above

Question No.25

Biogas generation is mainly based on the principle of

- fermentation
- degradation
- putrefication
- both fermentation and degradation

Question No.26

Zygotic meiosis is a characteristic feature of

- Bryophytes
- Gymnosperms
- Algae
- Pteridophytes

Question No.27

The Cape Floristic Region (CFR) has been called the world's 'hottest hot-spot' for plant diversity and endemism which is located in_____

- South Africa
- South America
- South Korea
- India

Question No.28

In India the invasive species that is not an alien species is

- Eichhornia
- Cynodon
- Parthenium
- Lantana

Question No.29

To compare the frequency distributions of more than one set of data is achieved through

- Line graph
- Frequency polygon
- Box-plots
- Histogram

Question No.30

Earthworms that are seen on the surface are called

- Endogeic (endogenic)
- Anneic
- Epigeic (epigenic)
- Hygienic

Question No.31

The function of the chopper in Atomic Absorption Spectroscopy is

- To split the beam into two
- To filter unwanted components
- To reduce the sample into atomic state

- To break the steady light into pulsating light

Question No.32

'Lungs of the planet Earth' is

- Taiga forest
- Amazon rain forest
- Tundra forest
- Rain forests of North East India

Question No.33

The initial colonizer of bare and lifeless substrate is

- Pteridophytes
- Mosses
- Lichens
- Gymnosperms

Question No.34

The relationship between p_a =partial pressure of dry air, p_w =partial pressure of water vapour, p =atmospheric pressure is

- $p = p_w - p_a$
- $p = p_w + p_a$
- $p = p_w$
- $p = p_a$

Question No.35

The micro-organisms that help in formation of soil is

- Moss
- Lichen
- Bacteria
- Fungus

Question No.36

A group of individuals of the same age is referred to as

- Age structure
- Fecundity
- Mortality
- Cohort

Question No.37

The term 'Sustainable Development' came into existence during

- 1978
- 1980
- 1987
- 1992

Question No.38

Use of agricultural fertilizers adds excess _____ to ecosystems and can cause eutrophication of waters

- both phosphorus and nitrogen
- carbon
- nitrogen
- phosphorus

Question No.39

Which one of the following gases is not a green house gases?

- O₃
- CH₄
- N₂O
- CO

Question No.40

The extinction of megafauna are predominately caused by

- Human beings
- Mass extinctions
- Natural calamities
- Global warming

Question No.41

In 1973, a forest conservation movement was held in Uttar Pradesh where people embraced prevention of tree from being cut is known as

- Chipko Andolan movement
- Silent Valley movement
- Bishnois movement
- None of the above

Question No.42

The ratio of carbon dioxide present in the atmosphere is

- 26%
- 78%
- 76%
- 0.03%

Question No.43

The number of biodiversity hotspots present in India is

- Five
- One
- Four
- Two

Question No.44

The diversity of the habitats over the total geographic area is called

- Delta (δ) diversity
- Gamma (γ) diversity
- Beta (β) diversity

- Alpha (α) diversity

Question No.45

Algal portion of coral reef is called as

- Zooplankton
 Polyp
 Zooxanthellae
 Phytoplankton

Question No.46

Match the following

Major Biomes and their characteristics

A) Tropical rain forests – i) Roots of perennial grasses penetrate far into the soil

B) Deserts – ii) Survival of organism depends on water conservation

C) Temperate grasslands – iii) The richest ecosystems on earth

D) Temperate evergreen forests – iv) Nutrient poor soils

- A) – ii, B) – i C) – iii D) – iv
 A) – iii, B) – ii C) – i D) – iv
 A) – i, B) – iii C) – ii D) – iv
 A) – ii, B) – iii C) – i D) – iv

Question No.47

The net weight of all the organisms living in an ecosystem is

- Net primary production
 Biomass
 Gross primary production
 Primary production

Question No.48

Which of the following certification standards helps an organization achieve the intended outcomes of its Environmental Management System (EMS) ?

- ISO 14001
 ISO 14021
 ISO 14011
 ISO 14010

Question No.49

In living systems, the cleavage of atmospheric nitrogen is NOT catalyzed by a following enzyme

- Ferredoxin
 Nitrogen reductase
 Nitrogenase
 Cytochrome oxidase

Question No.50

Photochemical smog are likely to contain

- Sulphur dioxide

- Photochemical oxidants
- Smog
- Chlorofluorocarbon

Question No.51



Arithmetic mean is 12 and number of observations are 20 then sum of all values is

- 240
- 1.667
- 8
- 32

Question No.52



Which one of the following factors is NOT promoting the species richness

- Climate
- Spatial heterogeneity
- Ecosystem productivity
- Invasion of foreign species

Question No.53



“Policy Statement for Abatement of Pollution” was adopted during

- 1991
- 1990
- 1992
- 1993

Question No.54



BOD/COD ratio will always be

- Two fold
- Equal to 1
- More than 1
- Less than 1

Question No.55



Environmental Impact Assessment (EIA) is mandatory under which one of the following Indian legislations

- Air (Prevention and Control of Pollution) Act
- Indian Forests Act
- Water (Prevention and Control of Pollution) Act
- Environment (Protection) Act

Question No.56



Prevention of rainwater percolation in landfills by vegetative means is called

- Phytocapping
- Phyto-volatization
- Phytoextraction
- Phytoremediation

Question No.57



The percentage of scores falls within three standard deviations from the mean is

- 50%
- 68%
- 99.7%
- 95%

Question No.58



The protists have

- membrane bound nucleoproteins lying embedded in the cytoplasm
- gene containing nucleoproteins condensed together in loose mass
- only free nucleic acid aggregates
- nucleoprotein in direct contact with the rest of the cell substance.

Question No.59



Ecological niche indicates

- The way in which an organism utilizes its environment
- Habitat of an organism
- Interference competition
- Interspecific competition

Question No.60



The gaseous envelope around the earth is known as atmosphere. The lowest layer of this is extended upto 10 km from sea level, this layer is called as

- Mesosphere
- Hydrosphere
- Stratosphere
- Troposphere

Question No.61



Competition in which two species attempt to utilize the same resources is called

- Interspecific competitions
- Interference competition
- Exploitative competition
- None of the above

Question No.62



High reflectivity of solar radiation is caused by

- Snow surface
- Water vapour
- Leaf surface
- Water surface

Question No.63



A taxon is

- a taxonomic group of any ranking.
- a type of living organisms

- a group of related species
- a group of related families

Question No.64

The primary advantage of ex-situ conservation is

- Genetic process for breeding/long life
- Cheap method
- Conserve large number of species together
- Existence in natural habitat

Question No.65

The scientist who introduced taxon of "order" in taxonomic hierarchy is

- Augustus Rivinus
- Andrea Caesalpino
- John Ray
- Tournefort

Question No.66

Ozone layer exist in

- Mesosphere
- Troposphere
- Exosphere
- Stratosphere

Question No.67

In 1984, the Bhopal gas tragedy was happened due to the leakage of

- Methyl Isothiocyanate
- Methyl Isocyanate
- Methyl Isocyanide
- Methyl Isothio cyanide

Question No.68

In stabilized ecosystem the relationship between Photosynthesis (P) and Respiration (R) is

- $P-R=1$
- $P/R < 1$
- $P/R =1$
- $P/R > 1$

Question No.69

Match the following

Major habitats of marine environment

A) Neritic zone – i) Area of water above the ocean floor

B) Pelagic zone – ii) Zone of shallow water

C) Benthic zone – iii) The actual ocean floor

- A) – iii, B) – ii C) – i
- A) – iii, B) – i C) – ii

- A) – ii, B) – iii C) – i
- A) – ii, B) – i C) – iii

Question No.70

Sheet erosion is caused by

- Heavy rains
- Glaciers
- Wind
- Fast running rivers

Question No.71

Sound becomes hazardous noise pollution at decibels

- Above 100
- Above 30
- Above 120
- Above 80

Question No.72

If a gamete has 16 chromosomes, what will be the number of chromatids before anaphase-I

- 64
- 8
- 16
- 32

Question No.73

Dioxins consist of two 'polychlorinated aromatic' hydrocarbons, associated with one or two

- Halogen group
- ether group
- inorganic compounds
- organic compounds

Question No.74

The term equinoxes refers to

- Equal nights
- Equal pressure
- Equal angles
- Equal distance

Question No.75

The headquarter of Inter-governmental Panel on Climate Change (IPCC) is located in _____

- Geneva, Switzerland
- Copenhagen, Denmark
- Rome, Italy
- Nairobi, Kenya

Question No.76

Mixed cropping allows easy crop rotation with much less chance of

- Soil Exhaustion
- Top Soil loss
- Soil Erosion
- Soil Loss

Question No.77

The passenger pigeon became extinct due to

- Over exploitation by humans.
- Bird flu virus infection
- Non-availability of the food.
- Increased number of predatory birds.

Question No.78

Which of the following bacterium is called as the superbug that could clean up oil spills

- Bacillus denitrificans*
- Bacillus subtilis*
- Pseudomonas putida*
- Pseudomonas denitrificans*

Question No.79

The process of extracting metals from ore bearing rocks through the use of living organisms is called

- Microbial extraction
- Biofiltration
- Bioleaching
- Bioextraction

Question No.80

Connect the statement A with B

Statement A: No population occurs in all habitats throughout the world

Statement B: Each population has its own requirements – temperature, humidity, certain type of food, and a host

- Statement A & B are correct; Statement B is explanation to statement A
- Statement B is correct and statement A not related with statement B
- Statement B is incorrect But statement B support statement A
- Statement A & B are incorrect

Question No.81

The optimum level of dissolved oxygen in water to support the growth of living organisms is

- 2 -3 mg / L
- 3 - 4 mg / L
- 5 - 6 mg / L
- 10 - 12 mg / L

Question No.82

The group that exhibits more species diversity is

- Algae

- Gymnosperms
- Fungi
- Bryophytes

Question No.83



Septic tank is

- An aerobic attached growth treatment system
- An anaerobic attached growth biological treatment system
- An anaerobic suspended growth treatment system
- An aerobic suspended growth biological treatment system

Question No.84



The shape of age pyramid of the diminishing population is

- Upright
- Bell shaped
- Inverted
- Urn-shaped

Question No.85



Pedogenesis refers to the _____ of rocks.

- Weathering
- Mineralization
- Humification
- All of these

Question No.86



Match the following

Kind of symbiotic relationships

A) Commensalism – i) Ants and *Acacias*

B) Mutualism – ii) One species benefits but the other is harmed

C) Parasitism – iii) Epiphytes

- A) – iii, B) – i C) – ii
- A) – iii, B) – ii C) – i
- A) – ii, B) – iii C) – i
- A) – ii, B) – i C) – iii

Question No.87



The plant derived biodegradable polymer(s) is / are _____.

- Polyhydroxyalkanoates (PHA)
- Polyhydroxybutyrate (PHB)
- A and B
- None of the above

Question No.88



In paddy fields, biological nitrogen fixation is chiefly brought by

- Green algae
- Rhizobium
- Mycorrhiza
- Cyanobacteria

Question No.89

Bacillus thuringiensis (Bt) strains are used for designing novel

- Bio-insecticidal plants
- Bio-metallurgical techniques
- Bio-mineralization processes
- Biofertilizers

Question No.90

If soil erosion caused by man-made activities which results in

- The rate of erosion is less
- The rate of erosion is high
- The rate of erosion is moderate
- None of the above

Question No.91

Denitrification process means

- Conversion of nitrogen gas to nitrate & it occurs in anaerobic condition
- Conversion of nitrate to nitrogen gas & it occurs in anaerobic condition
- Conversion of nitrate to nitrogen gas & it occurs in aerobic condition
- Conversion of nitrogen gas to nitrate & it occurs in aerobic condition

Question No.92

Which one of the following ecosystems is showing inverted pyramid of biomass?

- Grassland ecosystem
- Forest ecosystem
- Desert ecosystem
- Planktonic ecosystem

Question No.93

Long radishes crossed with round radishes result in all oval radishes which is _____ type of inheritance

- Multiple alleles.
- Complete dominance.
- Co-dominance.
- Incomplete dominance.

Question No.94

Species richness in a community leads to

- Lower resistant to invasion by exotic species
- Higher year-to-year reduction in biomass
- Lower resistance to disturbance
- Stability of community

Question No.95

Normal human eggs have:

- 23 autosomes.
- 46 chromosomes.
- 22 autosomes and a Y chromosome.
- 22 autosomes and an X chromosome.

Question No.96

Air pollution control device suitable for the removing the finest dust from the air is

- Fabric filter
- Electrostatic precipitator
- Wet scrubber
- Cyclone separator

Question No.97

The international day for the preservation of the ozone remembered on

- 17th September
- 19th September
- 18th September
- 16th September

Question No.98

Which one of the steps below is NOT included in the scoping process of EIA?

- Conduct public meetings and stakeholder consultations; integrate comments and collected feedback into project planning and alternatives.
- Define a set of criteria to assess the project.
- Set up the team of experts that will conduct the EIA.
- Identify and describe the environmental impacts and create a contingency plan

Question No.99

AB blood group mother with A blood group father produces children with ____ blood group

- O.
- A.
- B.
- AB.

Question No.100

Eutrophication:

- caused by diatoms
- is responsible for algal bloom
- inhibition of phytoplankton growth
- leads to decreased biomass