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## QUIZZES

### Unit Wise Test-15 (Ecosystem and Evolution)



30 Questions



25 min

#### Topics

Food chain, Food web, energy flow, Succession, Symbiosis (Mutualism, Commensalism, Parasitism, Predation), Biogeochemical Cycle (N<sub>2</sub> Cycle), Human Impacts on Environment, Acid Rain, Greenhouse effect, Ozone depletion, Algal blooms, Concepts of Evolution, Evolution of eukaryotes from prokaryotes, Lamarckism,

Darwinism, Evidences of Evolution

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Start Quiz

24 : 59



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1/30



25 min



Hint

Q : Among the scientists who believed in divine creation was:



Charles Darwin



Carolus Linnaeus



Alfred Wallace



J.B. de Lamarck

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





4/30



25 min



Hint

Q : According to Lamarck, blacksmith developing a bigger biceps in the arm is an example of:



Use of organs



Inheritance of acquired characters



Disuse of organs



All A, B, C

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24 : 57



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3/30



25 min



Hint

Q : According to Lamarck, extension of neck in giraffe was the result of:



Mutation



Natural selectionc



Environmental change



Genetic drift

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT



24 : 58



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2/30



25 min



Hint

Q : Archaeobacteria can tolerate maximum temperature up to:



110<sup>0</sup>C



130<sup>0</sup>C



120<sup>0</sup>C



140<sup>0</sup>C

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





6/30



25 min



Hint

Q : What was the perception of Darwin about unity of life?



All organisms descend from a common ancestor



All organisms are created specially by a divine force



All organisms share a common biological composition



All organisms arise from non-living things

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24 : 55



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5/30



25 min



Hint

Q : Which one is according to Lamarckism?



Variation → adaptations → inheritance



Adaptations → variation → inheritance



Recombination → variation → adaptations



Mutations → variations → adaptations

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





7/30



25 min



Hint

Q : According to Darwin \_\_\_\_\_ become better adapted to local environment through natural selection.



Regional community



Population



Ecosystem



Individual

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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8/30



25 min



Hint

Q : Which one is related to natural selection?



A More people → more resources → no competition



B More people → less resources → more competition



C Less people → more resources → no competition



D Less people → less resources → no competition

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT





10/30



25 min



Hint

Q : \_\_\_\_\_ first suggested the idea of evolution to Darwin.



Biogeography



Paleontology



Comparative anatomy



Population genetics

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT





9/30



25 min



Hint

Q : In Darwin's hypothetical evolutionary tree, tips of living twigs represent:



Ancestral History



Current Biodiversity



Common skills



Fossils

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT





12/30



25 min



Hint

Q : It provides a visual record in a complete series showing the evolution of an organism:



Vestigial structures



Geographic distribution



Fossils



Characteristics

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT





11/30



25 min



Hint

Q : Modern biological sciences suggest that \_\_\_\_\_ are the ancestors of all life.

A

Protists

B

Protozoans

C

Prokaryotes

D

Parazoans

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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13/30



25 min



Hint

Q : Which is not an example of homologous structure?



A Human arm & forelimb of goat



B Tail bone of human & monkey



C Leg of a dog and flipper of whale



D Fins of fish & flipper of whale

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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14/30



25 min



Hint

Q : Which of the followings protein is common in all aerobic species?



Cytochrome b



Cytochrome c



Cytochrome a

Cytochrome a<sub>3</sub>

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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17/30



25 min



Hint

Q : A dynamic equilibrium is established between community and environment when:



Climax is attained



Pioneers are found



Seral communities are growing



Before climax community

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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16/30



25 min



Hint

Q : Diagrammatic representation of different trophic levels of an ecosystem presents:



Energy flow



Mineral cycling



Food-chain and food web



Ecological pyramids

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24 : 40



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15/30



25 min



Hint

Q : A food chain is a group of:



A Organisms of same species



B Organisms feeding on one another



C Parasites and hosts



D Producers and decomposers

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT





18/30



25 min



Hint

Q : Intermediate communities between the pioneer and climax communities are referred to as:



Seral communities



Biotic communities



Inactive communities



Sub-climax communities

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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19/30



25 min



Hint

Q : Most stable ecosystem on earth is:



Deserts



Mountains



Forests



Grasslands

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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23



21/30



25 min



Hint

Q : 99% of solar energy is used:



A By plants



B To develop new ecosystem



C By organisms



D To evaporate water and reflect back to atmosphere

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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20/30



25 min



Hint

Q : Commensalism is:



A When both partners are harmed



B When both partners are benefited



C Weaker partner is benefited and stronger partner is not harmed



D It is not a relation between living organisms

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24 : 30



23/30



25 min



Hint

Q : Nitrifying bacteria are very useful as they:



Converts ammonia to nitrate



Fix atmospheric nitrogen



Reduce nitrate ammonia



Fix industrial nitrogen

**SAEED MDCAT**

SAEED MDCAT TEAM



SAEEDMDCAT





22/30



25 min



Hint

Q : The conversion of nitrogen to ammonia or nitrogenous compounds is called as:



A Nitrogen assimilation



B Nitrogen depletion



C Nitrification



D Nitrogen fixation

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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21

22

23





25/30



25 min



Hint

Q : Incomplete burning of carbonate and carbon compounds are source of:

A

Chlorofluorocarbons

B

Lead compounds

C

Sulfur dioxide

D

Carbon monoxide

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24/30



25 min



Hint

Q : Various living organisms, their reactions, interactions and interdependence constitute:



Ecosystem



Environmental factors



Ecological factors



Abiotic environment

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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27/30



25 min



Hint

Q : Greenhouse effect is due to higher concentration of:

 $\text{CO}_2$  $\text{CO}$  $\text{NO}_2$  $\text{PO}_4$ 

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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26/30



25 min



Hint

Q : Acid rain is due to increase in atmospheric concentration of:



A Ozone and dust



B CO<sub>2</sub> and CO



C SO<sub>2</sub> and CO



D SO<sub>2</sub> and NO<sub>2</sub>

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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28/30



25 min



Hint

Q : Carbon dioxide is called greenhouse gas because it is:

- A Used in greenhouse to increase plant growth
- B Transparent to heat rays but trap sunlight
- C Transparent to sunlight but trap heat
- D Transparent to both the sunlight and heat.

# SAEED MDCAT

## SAEED MDCAT TEAM

 SAEEDMDCAT

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30/30



25 min



Hint

Q : Ultimate survivors after eutrophication of an aquatic habitat are:



Fishes



Aerobic bacteria



Anaerobic bacteria



Fungi

# SAEED MDCAT

## SAEED MDCAT TEAM



## SAEEDMDCAT

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24 : 20



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29/30



25 min



Hint

Q : CFCs are responsible for:



O<sub>3</sub> layer depletion



Global warming



Acid rains



Greenhouse effect

SAEED MDCAT

SAEED MDCAT TEAM



SAEEDMDCAT

24

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Correct



Unattempted



Incorrect



1/30

Q : Among the scientists who believed in divine creation was:



Charles Darwin



Carolus Linnaeus



Alfred Wallace

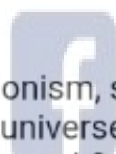


J.B. de Lamarck

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Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

In Creationism, special creation is a theological doctrine which states that the universe and all life in it originated in its present form by unconditional fiat or divine decree.

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Correct



Unattempted



Incorrect



2/30

Q : Archaeobacteria can tolerate maximum temperature up to:



110<sup>0</sup>C



130<sup>0</sup>C



120<sup>0</sup>C



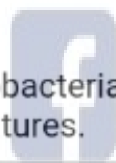
140<sup>0</sup>C

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Explanation

SAEED MDCAT TEAM

Archaeobacteria are thermophiles and can tolerate high temperatures.



SAEEDMDCAT

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Correct



Unattempted



Incorrect



4/30

Q : According to Lamarck, blacksmith developing a bigger biceps in the arm is an example of:



A

Use of organs



B

Inheritance of acquired characters



C

Disuse of organs



D

All A, B, C

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

According to Lamarck, organs which are more used, they develop bigger.

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Correct



Unattempted



Incorrect



3/30

Q : According to Lamarck, extension of neck in giraffe was the result of:



Mutation



Natural selectionc



Environmental change



Genetic drift

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Explanation

SAEED MDCAT TEAM



SAEEDMDCAT



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Correct



Unattempted



Incorrect



6/30

Q : What was the perception of Darwin about unity of life?



A

All organisms descend from a common ancestor



B

All organisms are created specially by a divine force



C

All organisms share a common biological composition



D

All organisms arise from non-living things

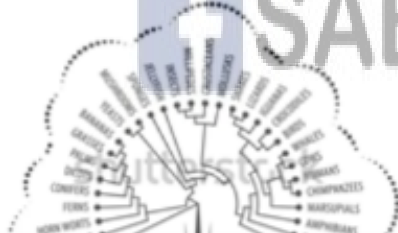
SAEED MDCAT

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT



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Correct



Unattempted



Incorrect



5/30

Q : Which one is according to Lamarckism?



Variation → adaptations → inheritance



Adaptations → variation → inheritance



Recombination → variation → adaptations

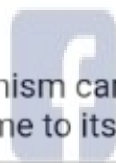


Mutations → variations → adaptations

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

An organism can pass on characteristics that it has acquired during its lifetime to its offspring.

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Correct



Unattempted



Incorrect



7/30

Q : According to Darwin \_\_\_\_\_ become better adapted to local environment through natural selection.



Regional community



Population



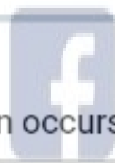
Ecosystem



Individual

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

Evolution occurs at population level.

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Incorrect



6/30

Q : What was the perception of Darwin about unity of life?



A

All organisms descend from a common ancestor



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C

All organisms share a common biological composition



D

All organisms arise from non-living things

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

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Correct



Unattempted



Incorrect



8/30

Q : Which one is related to natural selection?



More people → more resources → no competition



More people → less resources → more competition



Less people → more resources → no competition

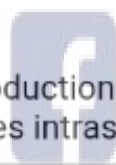


Less people → less resources → no competition

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Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

Over production in a population leads to the competition for limited resources intraspecifically as well as interspecifically.

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Incorrect



9/30

Q : In Darwin's hypothetical evolutionary tree, tips of living twigs represent:



Ancestral History



Current Biodiversity



Common skills



Fossils

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

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Correct



Unattempted



Incorrect



11/30

Q : Modern biological sciences suggest that \_\_\_\_\_ are the ancestors of all life.



Protists



Protozoans



Prokaryotes



Parazoans

SAEED MDCAT

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

As prokaryotes have arisen more than 3.5 billion years ago and eukaryotic cell appeared about 1.5 billion years ago. So prokaryotes are ancestors of all life

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Correct



Unattempted



Incorrect



10/30

Q : \_\_\_\_\_ first suggested the idea of evolution to Darwin.



A Biogeography



B Paleontology



C Comparative anatomy



D Population genetics

SAEED MDCAT

Explanation

SAEED MDCAT TEAM

Darwin's observation of natural flora and fauna at different Galapagos Islands suggested him the idea of evolution.



Correct



Unattempted



Incorrect



12/30

Q : It provides a visual record in a complete series showing the evolution of an organism:



Vestigial structures



Geographic distribution



Fossils



Characteristics

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

Visual record is provided by the dead remains of organism that has been saved in their exact form in rocks and icebergs

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Correct



Unattempted



Incorrect



13/30

Q : Which is not an example of homologous structure?



A Human arm & forelimb of goat



B Tail bone of human & monkey



C Leg of a dog and flipper of whale

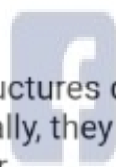


D Fins of fish & flipper of whale

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Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

Two structures do not look similar or have the same function, genetically, they come from the same structure of the last common ancestor.



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Correct



Unattempted



Incorrect



14/30

Q : Which of the followings protein is common in all aerobic species?



A Cytochrome b



B Cytochrome c



C Cytochrome a



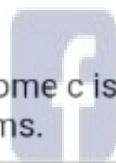
D Cytochrome a<sub>3</sub>

SAEED MDCAT

Explanation

SAEED MDCAT TEAM

Cytochrome c is the indication of common ancestry of aerobic organisms.



SAEEDMDCAT



Correct



Unattempted



Incorrect



15/30

Q : A food chain is a group of:



A Organisms of same species



B Organisms feeding on one another



C Parasites and hosts



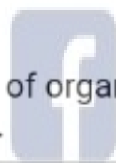
D Producers and decomposers

SAEED MDCAT

Explanation

SAEED MDCAT TEAM

A series of organisms in which every organism depends on another for food.



SAEEDMDCAT

10

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Incorrect



16/30

Q : Diagrammatic representation of different trophic levels of an ecosystem presents:



Energy flow



Mineral cycling



Food-chain and food web



Ecological pyramids

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

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Q : A dynamic equilibrium is established between community and environment when:

- A Climax is attained
- B Pioneers are found
- C Seral communities are growing
- D Before climax community

### Explanation

Most stable community in the ecosystem is climax community.





Correct



Unattempted



Incorrect



19/30

Q : Most stable ecosystem on earth is:



Deserts



Mountains



Forests

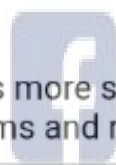


Grasslands

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

Forest is more stable ecosystem due to genetic diversity, diversity in organisms and resistance to climate change.

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Correct



Unattempted



Incorrect



18/30

Q : Intermediate communities between the pioneer and climax communities are referred to as:



A

Seral communities



B

Biotic communities



C

Inactive communities



D

Sub-climax communities

SAEED MDCAT TEAM

Explanation

A seral community is an intermediate stage found in ecological succession in an ecosystem advancing towards its climax community. In many cases more than one seral stage evolves until climax conditions are attained.

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Q : Commensalism is:

- A When both partners are harmed
- B When both partners are benefited
- C Weaker partner is benefited and stronger partner is not harmed**
- D It is not a relation between living organisms

### Explanation

In commensalism weaker partner is benefited and stronger is not benefited or harmed. For example relationship between shark and remora fish.



SAEED MDCAT TEAM



SAEEDMDCAT



Correct



Unattempted



Incorrect



21/30

Q : 99% of solar energy is used:



A By plants



B To develop new ecosystem



C By organisms



D To evaporate water and reflect back to atmosphere

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Explanation

SAEED MDCAT TEAM



1% of the total energy from the sun is trapped by the producers while, the remaining 99% of solar energy is used to evaporate water, heat up soil and is then lost to the outer space.



Correct



Unattempted



Incorrect



22/30

Q : The conversion of nitrogen to ammonia or nitrogenous compounds is called as:



A Nitrogen assimilation



B Nitrogen depletion



C Nitrification



D Nitrogen fixation

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

Nitrogen fixation is the process by which atmospheric nitrogen is converted by either a natural or an industrial means to nitrogenous compounds such as ammonia.



Correct



Unattempted



Incorrect



24/30

Q : Various living organisms, their reactions, interactions and interdependence constitute:



A

Ecosystem



B

Environmental factors



C

Ecological factors



D

Abiotic environment

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life.



Correct



Unattempted



Incorrect



23/30

Q : Nitrifying bacteria are very useful as they:



A

Converts ammonia to nitrate



B

Fix atmospheric nitrogen



C

Reduce nitrate ammonia



D

Fix industrial nitrogen

SAEED MDCAT

Explanation

SAEED MDCAT TEAM

Nitrifying bacteria are responsible for the oxidation of ammonia or ammonium ions to nitrate, this process is called nitrification.





Correct



Unattempted



Incorrect



25/30

Q : Incomplete burning of carbonate and carbon compounds are source of:



A Chlorofluorocarbons



B Lead compounds



C Sulfur dioxide



D Carbon monoxide

SAEED MDCAT TEAM

Explanation



SAEEDMDCAT

Carbon monoxide is produced by incomplete combustion of carbon compounds.



Correct



Unattempted



Incorrect



26/30

Q : Acid rain is due to increase in atmospheric concentration of:



A Ozone and dust



B CO<sub>2</sub> and CO



C SO<sub>2</sub> and CO

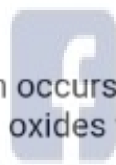


D SO<sub>2</sub> and NO<sub>2</sub>

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Explanation

SAEED MDCAT TEAM



SAEEDMDCAT

Acid rain occurs when water in the air reacts with sulphur oxides and nitrogen oxides which are produced from the combustion of fossil fuels.



Incorrect



27/30

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Q : Greenhouse effect is due to higher concentration of:



CO<sub>2</sub>



CO



NO<sub>2</sub>



PO<sub>4</sub>

Explanation

SAEED MDCAT

SAEED MDCAT TEAM





Correct



Unattempted



Incorrect



28/30

Q : Carbon dioxide is called greenhouse gas because it is:



A Used in greenhouse to increase plant growth



B Transparent to heat rays but trap sunlight



C Transparent to sunlight but trap heat

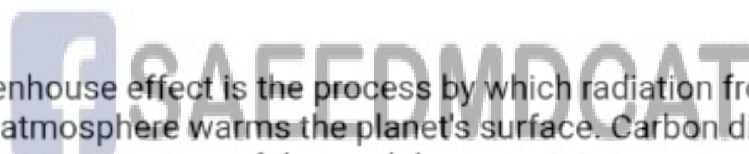


D Transparent to both the sunlight and heat.

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



The greenhouse effect is the process by which radiation from a planet's atmosphere warms the planet's surface. Carbon dioxide is increasing temperature of the earth because it is transparent to sunlight but trap heat.



Correct



Unattempted



Incorrect



30/30

Q : Ultimate survivors after eutrophication of an aquatic habitat are:



Fishes



Aerobic bacteria



Anaerobic bacteria

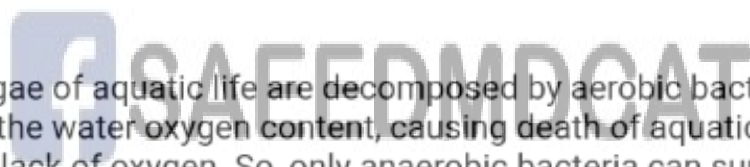


Fungi

SAEED MDCAT

Explanation

SAEED MDCAT TEAM



Dead algae of aquatic life are decomposed by aerobic bacteria, which deplete the water oxygen content, causing death of aquatic animals through lack of oxygen. So, only anaerobic bacteria can survive in this environment.



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Correct



Unattempted



Incorrect



29/30

Q : CFCs are responsible for:



A O<sub>3</sub> layer depletion



B Global warming



C Acid rains



D Greenhouse effect

SAEED MDCAT

Explanation

SAEED MDCAT TEAM

SAEEDMDCAT

The decline in the thickness of the ozone layer is caused by increasing level of chlorofluorocarbons (CFCs), which contains chlorine, fluorine, and carbon.

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