09 : 43

Q 2/10 10 min Hint

Q : Which of the following idea was not a part of Charles Darwin's theory of evolution by natural selection?

A Organisms produce more offspring than the environment can support

B Variation between individuals arises by gene mutation

C Individuals compete for scarce resources

D Adaptive variation is inherited

1 2 3 4 5 6

09 : 37

Q 3/10 10 min Hint

Q : Natural selection can operate on:

A Variations

B Non-heritable variations

C Heritable variations

D All A, B, C

1 2 3 4 5 6

09 : 33

Q 4/10 10 min Hint

Q : Survival in the struggle for existence depends upon:

A Physical environment

B Chemical constituents

C Heredity constitution

D Environmental resources

1 2 3 4 5 6

09 : 28

Q 5/10 10 min Hint

Q : According to Darwin survival in the struggle for existence is not random but depends on the _____ constitution of the surviving individuals.

A Hereditary

B Internal Environment

C External Environment

D Acquired characters

1 2 3 4 5 6

09 : 22

Q 6/10 10 min Hint

Q : The smallest biological unit that can evolve over time:

A A species

B A population

C An individual

D An ecosystem

4 5 6 7 8 9 10

09 : 18

Q 7/10 10 min Hint

Q : According to Hardy-Weinberg law, all of the following can affect allele frequency in a population's gene pool except:

A Mutation

B Migration

C Random mating

D Genetic drift

4 5 6 7 8 9 10

09 : 13

Q 8/10 10 min Hint

Q : All of the following are related to non-random mating in a particular population except:

A Allele frequency remains constant

B Increases the proportion of homozygous individuals

C Lessens the proportion of heterozygous individuals

D Strictly follows Hardy-Weinberg theorem

4 5 6 7 8 9 10

09 : 08

Q 9/10 10 min Hint

Q : Change in frequency of alleles at a locus that occurs by chance is called:

A Mutation

B Migration

C Genetic drift

D Selection

4 5 6 7 8 9 10

09 : 04

Q 10/10 10 min Hint

Q : It does not result in change in genetic frequency of an evolving population:

A Migration

B Mutation

C Selection

D Random mating

4 5 6 7 8 9 10

Practice Test-1 (Evolution)

10

10 min

06-Sep-2020

42 sec

Result Detail

Correct	7
Incorrect	3
Unattempted	0

Incorrect

Q 2/10

Q : Which of the following idea was not a part of Charles Darwin's theory of evolution by natural selection?

A Organisms produce more offspring than the environment can support

B Variation between individuals arises by gene mutation

C Individuals compete for scarce resources

D Adaptive variation is inherited

Explanation

Darwinism is a theory of evolution based upon inherited variations in organisms and natural selection of fitter variants to produce species adapted to their habitats. Neo-Darwinism relates evolution with population genetics.

Correct
Unattempted
Incorrect
Q 3/10

Q : Natural selection can operate on:

A Variations

B Non-heritable variations

C Heritable variations

D All A, B, C

Explanation

Variation in a population that is attributable to individual genetic differences.

Incorrect

Q 4/10

Q : Survival in the struggle for existence depends upon:

A Physical environment

B Chemical constituents

C Heredity constitution

D Environmental resources

Explanation

Darwin claimed that there was a continual struggle for existence in nature, in which only the fittest would survive with best genetic makeup.

Incorrect

Q 5/10

Q : According to Darwin survival in the struggle for existence is not random but depends on the _____ constitution of the surviving individuals.

A Hereditary

B Internal Environment

C External Environment

D Acquired characters

Explanation

Darwin claimed that there was a continual struggle for existence in nature, in which only the fittest would survive with best genetic makeup.

Correct

Unattempted

Incorrect

Q 6/10

Q : The smallest biological unit that can evolve over time:

A A species

B A population

C An individual

D An ecosystem

Explanation

Species are ultimate products of evolution.

Incorrect

Q 8/10

Q : All of the following are related to non-random mating in a particular population except:

A Allele frequency remains constant

B Increases the proportion of homozygous individuals

C Lessens the proportion of heterozygous individuals

D Strictly follows Hardy-Weinberg theorem

Explanation

Non-random mating does not change the allelic frequency of population but it lessens the frequency of heterozygotes as predicted by Hardy-Weinberg theorem.

Correct

Unattempted

Incorrect

Q 9/10

Q : Change in frequency of alleles at a locus that occurs by chance is called:

A Mutation

B Migration

C Genetic drift

D Selection

Explanation

Genetic drift is sudden change in allele frequency due to gene loss and it occurs by chance.

Correct
Unattempted
Incorrect
Q 10/10

Q : It does not result in change in genetic frequency of an evolving population:

A Migration

B Mutation

C Selection

D Random mating

Explanation

Random mating conserves the gene pool in a population.

TEST

Test Level-1 (Evolution)

20 Questions

15 min

Topics

Charles Darwin, Theory of Natural Selection, Hardy-Weinberg Theorem

Start Test

14 : 54

Q 1/20 15 min Hint

Q : According to Darwin, finches found on Galapagos island had distinct characteristics due to:

A Geographical isolation

B Developmental anomaly

C Special creation

D More competition on island

1 2 3 4 5 6

14 : 49

Q 2/20 15 min Hint

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

1 2 3 4 5 6

14 : 45

Q 3/20 15 min Hint

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

A Regional community

B Population

C Ecosystem

D Individual

1 2 3 4 5 6

14 : 41

Q 4/20 15 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

1 2 3 4 5 6

14 : 30

Q 6/20 15 min Hint

Q : All of the following are points of theory of natural selection except:

A Descent with modification

B Survival of the fittest

C Struggle for existence

D Inheritance of acquired characters

4 5 6 7 8 9

14 : 25

Q 7/20 15 min Hint

Q : Two main points of Darwin's theory of evolution are:

A Origin of species, Descent with modification

B Natural selection, adaptation

C Struggle for existence, evolution

D Descent with modification, Natural selection & adaptation

14 : 20

Q 8/20 15 min Hint

Q : Which of the following describes the process of natural selection?

A Change from simple to more complex organisms

B Differential reproductive success between genotypes

C Increase in the size of a population

D Occurrence of new mutations

7 8 9 10 11 12 13

Q 9/20 15 min Hint

Q : Which one of the following phenomenon supports Darwin's concept of natural selection in organic evolution?

A Development of transgenic animals

B Production of 'Dolly', the sheep by cloning

C Prevalence of pesticide resistant insects

D Development of organs from 'stem cells' for organ transplantation

14 : 11

Q 10/20 15 min Hint

Q : Diversity of living organisms is due to:

A Mutation

B Gradual changes

C Long term evolutionary change

D Short term evolutionary change

7 8 9 10 11 12 13

14 : 06

Q 11/20 15 min Hint

Q : In a population that is in Hardy-Weinberg equilibrium, 16 % of the individuals show the recessive trait. What is the frequency of the dominant allele in the population?

A 0.6

B 0.4

C 0.84

D 0.36

0 11 12 13 14 15 16

14 : 00

Q 12/20 15 min Hint

Q :

What is the frequency of the recessive allele in a population of 100 individuals with the following genotypes: 30 BB, 60 Bb, 10 bb?

A 0.3

B 0.4

C 0.6

D 0.7

13 : 56

Q 13/20 15 min Hint

Q : If frequency of dominant allele in a non-evolving population is 0.3 then the frequency of heterozygote in that population will be:

A 0.7

B 0.9

C 0.42

D 0.21

13 : 50

Q 14/20 15 min Hint

Q : In a population with two alleles 'M' and 'm', allelic frequency of 'M' is 0.8. What would be the frequency of heterozygote if population is in Hardy-Weinberg equation?

A 0.16

B 0.2

C 0.32

D 0.28

13 14 15 16 17 18 19

13 : 45

Q 15/20 15 min Hint

Q : Hardy–Weinberg equation is used to calculate:

A Frequency of alleles

B Genotype

C To observe evolution

D All A, B, C

13 14 15 16 17 18 19

13 : 40

Q 16/20 15 min Hint

Q : The frequency of an autosomal lethal gene is 0.4. The frequency of carrier in a population of 200 individuals is:

A 72

B 104

C 96

D 36

13 14 15 16 17 18 19

13 : 34

Q 17/20 15 min Hint

Q : Hardy–Weinberg equation is used to observe all at equilibrium except:

A Frequency of alleles

B Frequency of genotypes

C Evolution

D Gene locus

4 15 16 17 18 19 20

13 : 25

Q 19/20 15 min Hint

Q : Overall genetic structure of population is disturbed by:

A Mutation

B Genetic drift

C Selection

D All A, B, C

4 15 16 17 18 19 20

13 : 19

Q 20/20 15 min Hint

Q : The ultimate source of all changes is:

A Mutation

B Adaptation

C Migration

D Selection

4 15 16 17 18 19 20

TEST RESULT

Test Level-1 (Evolution)

20

15 min

06-Sep-2020

0 sec

Result Detail

Correct

Unattempted

Incorrect

Q 1/20

Q : According to Darwin, finches found on Galapagos island had distinct characteristics due to:

A Geographical isolation

B Developmental anomaly

C Special creation

D More competition on island

Explanation

Test Level-1 (Evolution)

Correct

Unattempted

Incorrect

Q 2/20

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

Explanation

1 2 3 4 5 6

Correct Unattempted

Incorrect Q 3/20

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

A Regional community

B Population

C Ecosystem

D Individual

Explanation

Evolution occurs at population level.

Correct

Unattempted

Incorrect

4/20

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

Explanation

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

Test Level-1 (Evolution)

Correct

Unattempted

Incorrect

Q 5/20

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

A Ancestral History

B Current Biodiversity

C Common skills

D Fossils

Explanation

1 2 3 4 5 6

Incorrect

6/20

Q : All of the following are points of theory of natural selection except:

A Descent with modification

B Survival of the fittest

C Struggle for existence

D Inheritance of acquired characters

Explanation

Darwinism is a theory of evolution based upon inherited variations in organisms and natural selection of fitter variants to produce species adapted to their habitats.

Correct Unattempted

Incorrect Q 7/20

Q : Two main points of Darwin's theory of evolution are:

A Origin of species, Descent with modification

B Natural selection, adaptation

C Struggle for existence, evolution

D Descent with modification, Natural selection & adaptation

Explanation

According to Darwin, changes occurring at a slow rate with slight changes results in evolution with time

Incorrect

Q 8/20

Q : Which of the following describes the process of natural selection?

A Change from simple to more complex organisms

B Differential reproductive success between genotypes

C Increase in the size of a population

D Occurrence of new mutations

Explanation

Nature selects those species which can reproduce under harsh environmental conditions due to their better genotype. So success of species depends on its different genotype.

Q : Which one of the following phenomenon supports Darwin's concept of natural selection in organic evolution?

A Development of transgenic animals

B Production of 'Dolly', the sheep by cloning

C Prevalence of pesticide resistant insects

D Development of organs from 'stem cells' for organ transplantation

Explanation

Transgenic animals, cloning of sheep (Dolly) and use of stem cells for development of organs all are use of biotechnology techniques, while development of pesticide resistance in insects with time is an example of natural selection.

Incorrect

Q 11/20

Q : In a population that is in Hardy-Weinberg equilibrium, 16 % of the individuals show the recessive trait. What is the frequency of the dominant allele in the population?

A 0.6

B 0.4

C 0.84

D 0.36

Explanation

According to Hardy-Weinberg's equation:

$p^2 + 2pq + q^2 = 1$ (Value of q^2 is 16/100 = 0.16)

Incorrect

Q 12/20

Q :

What is the frequency of the recessive allele in a population of 100 individuals with the following genotypes: 30 BB, 60 Bb, 10 bb?

A 0.3

B 0.4

C 0.6

D 0.7

Explanation

Frequency of recessive allele in this population is (q=80/200=0.4).

Correct

Unattempted

Incorrect

Q 13/20

Q : If frequency of dominant allele in a non-evolving population is 0.3 then the frequency of heterozygote in that population will be:

A 0.7

B 0.9

C 0.42

D 0.21

Explanation

p = 0.3, q=0.7 frequency of heterozygote will be calculated by 2pq.

Incorrect

Q 14/20

Q : In a population with two alleles 'M' and 'm', allelic frequency of 'M' is 0.8. What would be the frequency of heterozygote if population is in Hardy-Weinberg equation?

A 0.16

B 0.2

C 0.32

D 0.28

Explanation

'M' = 0.8, then 'm' = 02 and heterozygote will be 2(Mm).

Correct
Unattempted
Incorrect
Q 15/20

Q : Hardy–Weinberg equation is used to calculate:

A Frequency of alleles

B Genotype

C To observe evolution

D All A, B, C

Explanation

Hardy–Weinberg theorem explains the frequency of alleles and genotypes in a non-evolving population at equilibrium.

Incorrect

Q 16/20

Q : The frequency of an autosomal lethal gene is 0.4. The frequency of carrier in a population of 200 individuals is:

A 72

B 104

C 96

D 36

Explanation

p= 0.6, q=0.4. Carriers will be heterozygotes and will be calculated by 2(0.6)(0.4)=0.48

So 48% of individuals will be carriers.

Correct

Unattempted

Incorrect

17/20

Q : Hardy–Weinberg equation is used to observe all at equilibrium except:

A Frequency of alleles

B Frequency of genotypes

C Evolution

D Gene locus

Explanation

Hardy–Weinberg theorem explains the frequency of alleles and genotypes in a non-evolving population at equilibrium.

Incorrect

18/20

Q :

In a population with two alleles for a particular locus, B and b, the allele frequency of B is 0.7. What would be the frequency of heterozygous if the population is in Hardy-Weinberg equilibrium?

A 0.36

B 0.16

C 0.42

D 0.24

Explanation

p = 0.7, q=0.3 (frequency of heterozygote will be calculated by 2pq).

Correct

Unattempted

Incorrect

Q 19/20

Q : Overall genetic structure of population is disturbed by:

A Mutation

B Genetic drift

C Selection

D All A, B, C

Explanation

All factors that effect genetic make up of a population and effect its allele frequency disturb genetic structure of a population.

Incorrect

20/20

Q : The ultimate source of all changes is:

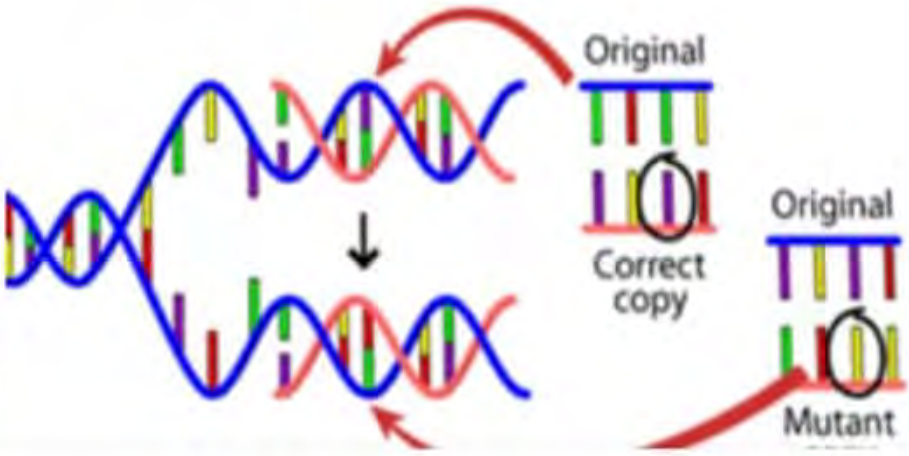
A Mutation

B Adaptation

C Migration

D Selection

Explanation



14 : 56

Q 1/20 15 min Hint

Q : According to Darwin, finches found on Galapagos island had distinct characteristics due to:

A Geographical isolation

B Developmental anomaly

C Special creation

D More competition on island

1 2 3 4 5 6

14 : 52

Q 2/20 15 min Hint

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

1 2 3 4 5 6

14 : 48

Q 3/20 15 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

1 2 3 4 5 6

14 : 43

Q 4/20 15 min Hint

Q :

Following observations refer to natural selection:

1. Evolution

2. Struggle for existence

3. Overproduction in a population

4. Natural selection

Which of these represent exact sequence of these events?

A 3,2,4,1

B 3,1,4,2

C 4,2,1,3

D 2,1,3,4

1 2 3 4 5 6

14 : 38

Q 5/20 15 min Hint

Q : Which of the following idea was not a part of Charles Darwin's theory of evolution by natural selection?

A Organisms produce more offspring than the environment can support

B Variation between individuals arises by gene mutation

C Individuals compete for scarce resources

D Adaptive variation is inherited

1 2 3 4 5 6

14 : 34

Q 6/20 15 min Hint

Q : Survival in the struggle for existence depends upon:

A Physical environment

B Chemical constituents

C Heredity constitution

D Environmental resources

1 2 3 4 5 6 7

14 : 28

Q 7/20 15 min Hint

Q : All of the following are points of theory of natural selection except:

A Descent with modification

B Survival of the fittest

C Struggle for existence

D Inheritance of acquired characters

6 7 8 9 10 11

14 : 24

Q 8/20 15 min Hint

Q : According to Darwin, the prime cause of evolution is:

A Overproduction

B Survival of the fittest

C Struggle for existence

D Natural selection

6 7 8 9 10 11

14 : 19

Q 9/20 15 min Hint

Q : Which one of the following phenomenon supports Darwin's concept of natural selection in organic evolution?

A Development of transgenic animals

B Production of 'Dolly', the sheep by cloning

C Prevalence of pesticide resistant insects

D Development of organs from 'stem cells' for organ transplantation

6 7 8 9 10 11

14 : 15

Q 10/20 15 min Hint

Q : Diversity of living organisms is due to:

A Mutation

B Gradual changes

C Long term evolutionary change

D Short term evolutionary change

6 7 8 9 10 11

14 : 10

Q 11/20 15 min Hint

Q : The smallest biological unit that can evolve over time:

A A species

B A population

C An individual

D An ecosystem

10 11 12 13 14 15 16

14 : 06

Q 12/20 15 min Hint

Q : In a population that is in Hardy-Weinberg equilibrium, 16 % of the individuals show the recessive trait. What is the frequency of the dominant allele in the population?

A 0.6

B 0.4

C 0.84

D 0.36

10 11 12 13 14 15 16

14 : 02

Q 13/20 15 min Hint

Q :

What is the frequency of the recessive allele in a population of 100 individuals with the following genotypes: 30 BB, 60 Bb, 10 bb?

A 0.3

B 0.4

C 0.6

D 0.7

10 11 12 13 14 15 16

13 : 58

Q 14/20 15 min Hint

Q : If frequency of dominant allele in a non-evolving population is 0.3 then the frequency of heterozygote in that population will be:

A 0.7

B 0.9

C 0.42

D 0.21

10 11 12 13 14 15 16

13 : 54

Q 15/20 15 min Hint

Q : According to Hardy-Weinberg law, all of the following can affect allele frequency in a population's gene pool except:

A Mutation

B Migration

C Random mating

D Genetic drift

10 11 12 13 14 15 16

13 : 49

Q 16/20 15 min Hint

Q : In a population with two alleles 'M' and 'm', allelic frequency of 'M' is 0.8. What would be the frequency of heterozygote if population is in Hardy-Weinberg equation?

A 0.16

B 0.2

C 0.32

D 0.28

0 11 12 13 14 15 16

13 : 38

Q 18/20 15 min Hint

Q : If p + q = 1 then what will be frequency of q?

A 1−p

B 1−q

C q^2

D p^2

4 15 16 17 18 19 20

13 : 33

Q 19/20 15 min Hint

Q : Change in frequency of alleles at a locus that occurs by chance is called:

A Mutation

B Migration

C Genetic drift

D Selection

4 15 16 17 18 19 20

13 : 28

Q 20/20 15 min Hint

Q : It does not result in change in genetic frequency of an evolving population:

A Migration

B Mutation

C Selection

D Random mating

4 15 16 17 18 19 20

TEST RESULT

Test Level-2 (Evolution)

20

15 min

06-Sep-2020

17 sec

Result Detail

Correct 18

Correct

Unattempted

Incorrect

Q 1/20

Q : According to Darwin, finches found on Galapagos island had distinct characteristics due to:

A Geographical isolation

B Developmental anomaly

C Special creation

D More competition on island

Correct

Unattempted

Incorrect

Q 2/20

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

Correct

Unattempted

Incorrect

Q 3/20

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

Incorrect

Q 4/20

Q :

Following observations refer to natural selection:

1. Evolution

2. Struggle for existence

3. Overproduction in a population

4. Natural selection

Which of these represent exact sequence of these events?

A 3,2,4,1

B 3,1,4,2

C 4,2,1,3

D 2,1,3,4

Correct

Unattempted

Incorrect

Q 5/20

Q : Which of the following idea was not a part of Charles Darwin's theory of evolution by natural selection?

A Organisms produce more offspring than the environment can support

B Variation between individuals arises by gene mutation

C Individuals compete for scarce resources

D Adaptive variation is inherited

Correct

Unattempted

Incorrect

Q 6/20

Q : Survival in the struggle for existence depends upon:

A Physical environment

B Chemical constituents

C Heredity constitution

D Environmental resources

Correct

Unattempted

Incorrect

Q 7/20

Q : All of the following are points of theory of natural selection except:

A Descent with modification

B Survival of the fittest

C Struggle for existence

D Inheritance of acquired characters

Correct

Unattempted

Incorrect

Q 8/20

Q : According to Darwin, the prime cause of evolution is:

A Overproduction

B Survival of the fittest

C Struggle for existence

D Natural selection

Correct

Unattempted

Incorrect

Q 9/20

Q : Which one of the following phenomenon supports Darwin's concept of natural selection in organic evolution?

A Development of transgenic animals

B Production of 'Dolly', the sheep by cloning

C Prevalence of pesticide resistant insects

D Development of organs from 'stem cells' for organ transplantation

Correct | Unattempted

Incorrect | 10/20

Q : Diversity of living organisms is due to:

A Mutation

B Gradual changes

C Long term evolutionary change

D Short term evolutionary change

Correct

Unattempted

Incorrect

Q 11/20

Q : The smallest biological unit that can evolve over time:

A A species

B A population

C An individual

D An ecosystem

Correct

Unattempted

Incorrect

Q 12/20

Q : In a population that is in Hardy-Weinberg equilibrium, 16 % of the individuals show the recessive trait. What is the frequency of the dominant allele in the population?

A 0.6

B 0.4

C 0.84

D 0.36

Correct

Unattempted

Incorrect

Q 13/20

Q :

What is the frequency of the recessive allele in a population of 100 individuals with the following genotypes: 30 BB, 60 Bb, 10 bb?

A 0.3

B 0.4

C 0.6

D 0.7

Correct

Unattempted

Incorrect

Q 14/20

Q : If frequency of dominant allele in a non-evolving population is 0.3 then the frequency of heterozygote in that population will be:

A 0.7

B 0.9

C 0.42

D 0.21

Correct

Unattempted

Incorrect

Q 15/20

Q : According to Hardy-Weinberg law, all of the following can affect allele frequency in a population's gene pool except:

A Mutation

B Migration

C Random mating

D Genetic drift

Correct | Unattempted

Incorrect | 16/20

Q : In a population with two alleles 'M' and 'm', allelic frequency of 'M' is 0.8. What would be the frequency of heterozygote if population is in Hardy-Weinberg equation?

A 0.16

B 0.2

C 0.32

D 0.28

Test Level-2 (Evolution)

Correct

Unattempted

Incorrect

Q 17/20

Q : The frequency of an autosomal lethal gene is 0.4. The frequency of carrier in a population of 200 individuals is:

A 72

B 104

C 96

D 36

14 15 16 17 18 19 20

Correct

Unattempted

Incorrect

Q 18/20

Q : If p + q = 1 then what will be frequency of q?

A 1−p

B 1−q

C q^2

D p^2

Correct

Unattempted

Incorrect

Q 19/20

Q : Change in frequency of alleles at a locus that occurs by chance is called:

A Mutation

B Migration

C Genetic drift

D Selection

Correct

Unattempted

Incorrect

Q 20/20

Q : It does not result in change in genetic frequency of an evolving population:

A Migration

B Mutation

C Selection

D Random mating