

**9. DESIRABLE & UNDESIRABLE, PERIODIC
& NON-PERIODIC CHANGES
SOLUTIONS**

TEACHING TASK

JEE MAINS LEVEL QUESTIONS

1. Food turning bad in summer is a .

A)undesirable change B)desirable change C)periodic change D)physical change

Answer:A

Solution: Spoiling of food is harmful, unwanted, and irreversible.

2. Rusting of iron is a .

A)slow change B)undesirable change C)chemical change D)all

Answer:D

Solution:A) Slow change – takes time

B) Undesirable change – weakens structures

C) Chemical change – new substance (iron oxide) forms

3. Melting of snow on the mountains in summer is a .

A)desirable change B)Non periodic change C)periodic change D)none

Answer:C

Solution:Melting of snow on mountains in summer occurs every year as the seasons change.It follows a regular, natural cycle (due to periodic seasonal temperature changes).Therefore, it is a periodic change — it repeats at regular intervals (annually).

4. The heat produced by the burning of petrol in the engines of cause is a .

A)desirable change B)undesirable change C)both a & b D)physical change

Answer:C

Solution:A) Desirable – provides energy to run the car

B) Undesirable – produces pollution

5. Beating of heart is a .

A)periodic change B)physical change C)undesirable change D)desirable change

Answer:A

Solution: It repeats at regular intervals, so it's periodic.

6. Earth quakes are a .

A)non periodic change B)irreversible change C)periodic change D)physical change

Answer:A

Solution:Occur suddenly, without a regular pattern.

7. Changes that are not harmful or toxic or any living organisms are called

A)periodic change B)physical change C)undesirable change D)desirable change

Answer:D

Solution: Beneficial and harmless changes are desirable.

8. Flooding of rivers in rainy seasons is an .

A)undesirable change B)physical change C)chemical change D)none

Answer:A

Solution:Causes damage to life and property.

9. High and low tides at sea is a .

A)periodic change B)physical change C)chemical change D)nonperiodic change

Answer:A

Solution:Occur predictably due to gravitational pull of the moon (12.5-hour cycle).

10. Change of seasons is a .

A)periodic change B)desirable change C)slow change D)all

Answer:D

Solution:Periodic: Cyclic (annual).

Desirable: Essential for ecosystems.

Slow: Transitions occur gradually.

JEE ADVANCED LEVEL QUESTIONS

Multi correct answer type:

11. In thermal power stations, heat, smoke, heat energy is produced from burning of coal, this involves

A) Periodic Change B) Undesirable change
C) Non periodic Change D) Desirable change

Answer:B,D

Solution:Desirable change (D):

The heat energy produced from burning coal is useful for generating electricity, making it a desirable outcome.

Undesirable change (B):

The smoke and pollution released during coal burning are harmful to the environment and human health, making it an undesirable side effect.

Assertion and Reason Type:

A) Both Assertion and Reason are true, and Reason is the correct explanation for Assertion.

B) Both Assertion and Reason are true, but Reason is NOT the correct explanation for Assertion.

C) Assertion is true, but Reason is false.

D) Assertion is false, but Reason is true.

12. Assertion : A change brought about by a person (or) the nature, which is useful, is called a desirable change

Reason : Rusting of articles of iron is a desirable change

Answer:C

Solution:Assertion: True.

Example: Photosynthesis (useful for plants) or cooking food (useful for humans).

Reason: False.

Rusting is undesirable because it weakens iron structures and causes economic losses.

Comprehension Type:

The changes which occur again and again, after fixed intervals of time, are called periodic change. The changes which do not repeat themselves at regular intervals of time, are called non periodic changes.

13. Which of the following statements is true

A) Food turning bad in summer is an undesirable change.
B) Breaking of glass ware/glass article is an undesirable change.
C) Rusting of articles of iron is an undesirable change.

D) All the above

Answer:D

Solution:A) Food turning bad in summer is an undesirable change.

True: Spoilage is harmful and unwanted (chemical change caused by microbes).

B) Breaking of glassware is an undesirable change.

True: It causes loss of utility and is irreversible.

C) Rusting of iron articles is an undesirable change.

True: Rust weakens iron structures, leading to economic and safety issues.

Matrix Matching Type:

Column I

Column II

14. a) Rusting of articles

1) Desirable change

b) Plants making their food in sunshine

2) Periodic Change

c) Falling of leaves from a tree

3) Undesirable change

d) Pendulum clock

4) Nonperiodic change

Answer:a-3,b-1,c-4,d-2

Solution:

Column I

Column II

a) Rusting of articles

3) Undesirable change

b) Plants making their food in sunshine

1) Desirable change

c) Falling of leaves from a tree

4) Nonperiodic change

d) Pendulum clock

2) Periodic Change

LEARNERS TASK

CONCEPTUAL UNDERSTANDING QUESTIONS

1. A change brought about by a person (or) the nature, which is useful, is called a
A)undesirable change B)desirable change C)periodic change D)physical change

Answer:B

Solution: Desirable changes are helpful and beneficial to us, like cooking food or curd formation.

2. A change brought about by a person (or) the nature, such that it has harmful effects is called

A)undesirable change B)desirable change C)periodic change D)physical change

Answer:A

Solution: Changes like rusting of iron or food spoilage are harmful and therefore undesirable.

3. The changes which occur again and again, after fixed intervals of time, are called

A)undesirable change B)desirable change

C)periodic change D) non periodic change

Answer:C

Solution: The changes which occur again and again after fixed intervals of time are called Periodic changes.

4. The changes which do not repeat themselves at regular intervals of time, are called

A) Periodic Change B) Undesirable change

C) Non periodic Change D) Desirable change

Answer:C

Solution: The changes which do not repeat themselves at regular intervals of time are called Non-periodic changes.

5. Formation of curd from milk is a desirable change. It is because

- A) Curd is more easily digestible as compared to milk
- B) Curd is less digestible as compared to milk
- C) Milk is more digestible D) None

Answer:A

Solution:Curd contains probiotics that aid digestion, making it beneficial.

JEE MAINS LEVEL QUESTIONS

6. Which of the following statement is true

- A) Phases of moon is a periodic changes
- B) Land slides during rainy season are non-periodic changes
- C) Earth quakes are non periodic changes
- D) All the above

Answer:D

Solution:A) Phases of the moon are periodic changes → True (repeats every ~29.5 days).

B) Landslides during rainy season are non-periodic → True (occur unpredictably despite seasonal rain).

C) Earthquakes are non-periodic → True (no fixed timing).

7. Changes that are beneficial to all organisms are termed as

- A) Periodic Change B) Undesirable change
- C) Non periodic Change D) Desirable change

Answer:D

Solution: Changes that are beneficial to all organisms are termed as Desirable changes. Example: Photosynthesis, digestion.

8. Falling of leaves from a tree

- A)undesirable change B)desirable change
- C)periodic change D)Non periodic change

Answer:D

Solution:Falling leaves from a tree is a natural process that happens at a specific time of the year, but it doesn't occur at regular intervals, making it a non-periodic change.

9. Swinging of a clock pendulum is a

- A) Periodic Change B) Undesirable change
- C) Non periodic Change D) Desirable change

Answer:A

Solution:Swings at fixed, regular intervals (time-bound).

10. Land slides during rainy season are

- A) Periodic Change B) Undesirable change
- C) Non periodic Change D) both B & C

Answer:D

Solution:Undesirable (B): Cause destruction.

Non-periodic (C): Occur unpredictably despite seasonal triggers

JEE ADVANCED LEVEL QUESTIONS

Multi correct answer type:

11. Exhaust released from automobiles are
A) Non periodic change B) Periodic Change
C) Undesirable change D) Periodic Change

Answer: A, C

Solution: Non-periodic change (A):

Exhaust release is not time-bound; it happens continuously when the engine runs, without a fixed cycle.

Undesirable change (C):

Exhaust contains pollutants (CO_2 , NO_x) harmful to health and the environment.

Assertion and Reason Type:

- A) Both Assertion and Reason are true, and Reason is the correct explanation for Assertion.
B) Both Assertion and Reason are true, but Reason is NOT the correct explanation for Assertion.
C) Assertion is true, but Reason is false.
D) Assertion is false, but Reason is true.

12. Assertion : Food turning bad in summer is an undesirable change

Reason : A change brought about by a person (or) the nature, such that it has harmful effects is called an undesirable change

Answer: A

Solution: Assertion: True.

Spoilage is harmful (causes health risks) and unwanted.

Reason: True.

This is the exact definition of an undesirable change, and it directly explains why food spoilage qualifies.

Comprehension Type:

A change brought about by a person (or) the nature, which is useful, is called a desirable change. A change brought about by a person (or) the nature, such that it has harmful effects is called an undesirable change.

13. Which of the following is correct statement

- A) Formation of curd from milk is desirable change
B) Food turning bad in summer is an undesirable change
C) Both A & B D) None

Answer: C

Solution: A) Formation of curd from milk:

Desirable change (useful: curd is nutritious and digestible).

B) Food turning bad in summer:

Undesirable change (harmful: causes health risks).

14. Which of the following leads to harmful effects

- A) Food turning bad in summer B) Exhaust from vehicles
C) Smoke from factories D) All the above

Answer: D

Solution: A) Food spoilage: Harmful (toxins, health hazards).

B) Exhaust from vehicles: Harmful (pollution, respiratory diseases).

C) Smoke from factories: Harmful (air pollution, global warming).

Matrix Matching Type:

Column I

Column II

15. a) Change of seasons
b) Food turning bad in summer
c) Formation of manure
d) Burning of sparkle (or) fire-crackers
- 1) Desirable change
2) Non periodic change
3) Periodic change
4) Undesirable change

Answer:a-3,b-4,c-1,d-2

Solution:

- a) Change of seasons
b) Food turning bad in summer
c) Formation of manure
d) Burning of sparkle (or) fire-crackers
- 3) Periodic change
4) Undesirable change
1) Desirable change
2) Non periodic change

KEY

			TEACHING TASK						
			JEE MAINS LEVEL QUESTIONS						
1	2	3	4	5	6	7	8	9	10
A	D	C	C	A	A	D	A	A	D
			JEE ADVANCED LEVEL QUESTIONS						
11	12	13	14						
B,D	C	D	a-3,b-1,c-4,d-2						
			LEARNERS TASK						
			CONCEPTUAL UNDERSTANDING QUESTIONS						
1	2	3	4	5					
B	A	C	C	A					
			JEE MAINS LEVEL QUESTIONS						
6	7	8	9	10					
D	D	D	A	D					
			JEE ADVANCED LEVELQUESTIONS						
11	12	13	14	15					
A,C	A	C	D	a-3,b-4,c-1,d-2					