CUET UG (Biology) - 20 May 2025 Shift 1

Question1

What does 'r' denotes in the given equation?

dN/dT = rN

1. Population density
2. Time
3. Base of natural logarithms
4. Intrinsic rate of natural increase

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Intrinsic rate of natural increase

Explanation:

The equation:

(dN)/(dT) = rN

is the exponential growth equation in population ecology.

(dN)/(dT) = change in population size over time.

[N] = current population size

[r] = intrinsic rate of natural increase (birth rate – death rate), under ideal conditions.

Assumes unlimited resources, giving exponential growth.

CUET Tip: Always link ‘r’ to ideal growth conditions.

Question2

Aravalli Hills of Rajasthan and Khasi and Jaintia Hills in Meghalaya are the examples of:

1. Hotspots

2. Biosphere reserves

3. Sacred groves

4. Wildlife safari parks

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Sacred groves

Explanation:

Sacred groves are forest patches protected due to religious and cultural beliefs.

- Found in Khasi Hills, Aravalli, Western Ghats, etc.

- Serve as in-situ conservation sites and gene banks for rare species

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Question3

Exine of pollen grains has prominent apertures where sporopollenin is absent are known as:

1. Intine

2. Germ pores

3. Vegetative cell

4. Generative cell

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) Germ pores

Explanation:

Germ pores are thin regions in the pollen exine where sporopollenin is absent.

- Allow pollen tube emergence during fertilization

- Crucial for successful syngamy

CUET Tip: Link germ pores to pollen germination.

Question4

In amensalism:

1. One species is benefitted and the other is neither benefitted nor harmed

2. One species is benefited whereas the other is unaffected

3. One species is harmed whereas the other is unaffected

4. One species is harmed and other is benefitted

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) One species is harmed whereas the other is unaffected

Explanation:

This is amensalism, a type of interspecific interaction.

- Example: Penicillium inhibits bacterial growth

- One species suffers, the other remains unaffected

CUET Tip: Practice symbolic tables of interactions.

Table 11.1 : Population Interactions

Species A	Species B	Name of Interaction
+	+	*Mutualism*
–	–	*Competition*
+	–	*Predation*
+	–	*Parasitism*
+	0	*Commensalism*
–	0	*Amensalism*

Question5

Transmission of HIV infection occurs by:

(A) By transfusion of contaminated blood

(B) By sharing infected needles

(C) Sexual contact with HIV infected person

(D) From an infected mother to her child through the placenta

Choose the correct answer from the options given below:

1. (A), (B) and (D) only

2. (A), (B) and (C) only

3. (A), (B), (C) and (D)

4. (B), (C) and (D) only

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) (A), (B), (C), and (D)

Explanation:

HIV transmission occurs via:

- (A) Sexual contact

- (B) Contaminated blood

- (C) Infected needles

- (D) Vertical transmission (mother to child via placenta)

CUET Tip: Learn all transmission routes.

Question6

In Sickle-cell anemia, the substitution of amino acid in the globin protein results due to the single base substitution at the sixth codon of the beta globin gene from:

1. AUG to GAG

2. AUG to GUG

3. GAG to AUG

4. GAG to GUG

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) GAG to GUG

Explanation:

Sickle cell anaemia is caused by a point mutation in the β-globin gene.

- The codon GAG (glutamic acid) changes to GUG (valine)

- This substitution alters the haemoglobin structure, causing RBCs to become sickle-shaped

- Leads to reduced oxygen-carrying capacity and blockage in capillaries

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Question7

In case of malaria, the rupture of RBCs is associated with release of a toxic substance called,_____, which is responsible for the chill and high fever recurring after every three to four days.

1. Haeme

2. Haemozoin

3. Haematozoin

4. Haemoglobin

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) *Haemozoin*

Explanation:

In malaria, the parasite ***Plasmodium*** **ruptures RBCs, releasing haemozoin**, a toxic pigment.

- *Haemozoin* causes cyclical fever and chills

- It's a byproduct of haemoglobin digestion by the parasite

CUET Tip: Link parasite life cycle to symptoms.

Question8

In which region of the fallopian tube, fertilization of sperm and ovum takes place?

1. Isthmus

2. Ampulla

3. Infundibulum

4. Fimbriae

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) Ampulla

Explanation:

Fertilisation in humans occurs in the ampullary region of the fallopian tube.

- It's the widest section where sperm meets the ovum

- Zygote formation begins here before moving to the uterus

CUET Tip: Visualise female reproductive anatomy.

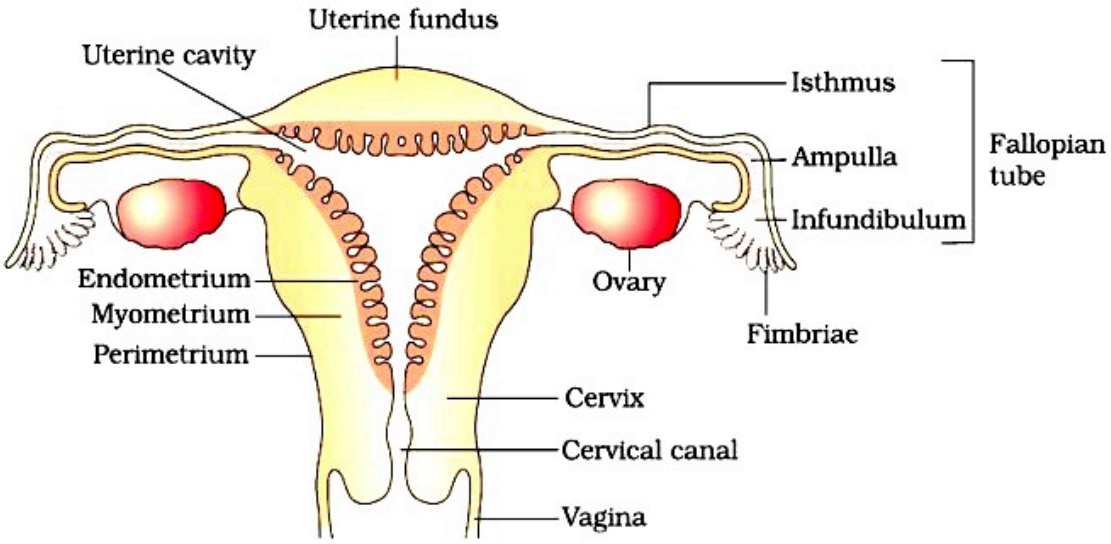

Figure 2.3 (b) Diagrammatic sectional view of the female reproductive system

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Question9

Choose the correct combination of STOP codons:

(A) UUU

(B) UAA

(C) UAG

(D) UGA

Choose the *correct* answer from the options given below:

1. (A), (B) and (D) only

2. (A), (B) and (C) only

3. (A), (B), (C) and (D)

4. (B), (C) and (D) only

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) (B), (C), and (D) only

Explanation:

Stop codons in genetic code:

- (B) UAA, (C) UAG, and (D) UGA

- These codons signal termination of translation

CUET Tip: Memorise codons for various amino acids.

Table 5.1: The Codons for the Various Amino Acids

First position	Second position: U	Second position: C	Second position: A	Second position: G	Third position
U	UUU Phe	UCU Ser	UAU Tyr	UGU Cys	U
	UUC Phe	UCC Ser	UAC Tyr	UGC Cys	C
	UUA Leu	UCA Ser	UAA Stop	UGA Stop	A
	UUG Leu	UCG Ser	UAG Stop	UGG Trp	G
C	CUU Leu	CCU Pro	CAU His	CGU Arg	U
	CUC Leu	CCC Pro	CAC His	CGC Arg	C
	CUA Leu	CCA Pro	CAA Gln	CGA Arg	A
	CUG Leu	CCG Pro	CAG Gln	CGG Arg	G
A	AUU Ile	ACU Thr	AAU Asn	AGU Ser	U
	AUC Ile	ACC Thr	AAC Asn	AGC Ser	C
	AUA Ile	ACA Thr	AAA Lys	AGA Arg	A
	AUG Met	ACG Thr	AAG Lys	AGG Arg	G
G	GUU Val	GCU Ala	GAU Asp	GGU Gly	U
	GUC Val	GCC Ala	GAC Asp	GGC Gly	C
	GUA Val	GCA Ala	GAA Glu	GGA Gly	A
	GUG Val	GCG Ala	GAG Glu	GGG Gly	G

Question10

Thalassemia is an:

1. Autosome-linked dominant disorder

2. Autosome-linked recessive disorder

3. Sex-linked recessive disorder

4. Sex-linked dominant disorder

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) Autosome-linked recessive disorder

Explanation:

Thalassemia is inherited when both parents carry a defective allele on autosomes.

- Symptoms appear only if both alleles are mutated

- Common in Mediterranean populations

-body produces abnormal hemoglobin due to reduced synthesis of globin chains, leading to anemia.

CUET Tip: Memorise Mendelian disorders.

Question11

Match List-I with List-II

Immunity barriers	**Examples**
(A) Physical barriers	(I) Interferons
(B) Cellular barriers	(II) Acid in the stomach
(C) Cytokine barriers	(III) Skin
(D) Physiological barriers	(IV) WBCs

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

2. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

4. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Correct Answer: (2) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Explanation:

This is a matching-type question based on NCERT.

Barrier type	Function	Example
(A) Physical	Stops germs from entering the body	(III) Skin
(B) Cellular	Immune cells (WBCs) eat and destroy germs	(IV) WBCs (White Blood Cells)
(C) Cytokine	Virus-infected cells send chemical signals to protect other cells	(I) Interferons
(D) Physiological	Body's secretions that kill or stop germ growth	(II) Acid in the stomach

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Question12

The RNA polymerase II transcribes:

1. tRNA

2. hnRNA

3. snRNA

4. rRNA

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) hnRNA

Explanation:

RNA polymerase II synthesizes heterogeneous nuclear RNA (hnRNA) in eukaryotes.

- hnRNA is the precursor to mRNA

- Undergoes splicing, capping, and tailing before becoming functional mRNA

CUET Tip: Link each RNA polymerase to its product.

Question13

The flowers which do not open at all are known as:

1. Chasmogamous flowers

2. Cleistogamous flowers

3. Submerged flowers

4. Cross-pollinated flowers

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (b) Cleistogamous flowers

Explanation:

Cleistogamous flowers never open, ensuring self-pollination.

- Anthers and stigma are in close proximity

- Common in plants like *Viola, Oxalis,* and *Commelina*

Question14

Statins produced by the yeast variety is_____ which have been commercialised as blood-cholesterol lowering agents.

1. *Aspergillus niger*

2. *Trichoderma polysporum*

3. *Monascus purpureus*

4. *Bacillus thuringiensis*

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) *Monascus purpureus*

Explanation:

Monascus purpureus, a yeast, produces statins that lower blood cholesterol.

CUET Tip: Tabulate microbes and their products for short and quick revision.

Question15

Contact inhibition is a property of:

1. Normal cells

2. Cancer cells

3. B-cells

4. T-cells

Options:

A. 1

B. 2

C. 3

D. 4

Answer: A

Solution:

Correct Answer: (1) Normal cells

Explanation:

Normal cells exhibit contact inhibition, stopping growth when in contact with other cells.

- Prevents overcrowding and uncontrolled proliferation

- Cancer cells lose this property, leading to tumor formation

Why others are wrong:

- (2) Cancer cells: Lack contact inhibition

- (3) &(4) involved in immunity response.

CUET Tip: Differentiate cell behaviors

Question16

IUCN stands for:

1. International Union for Conservation of Natural Resources

2. International Union for Conservation of Nature

3. International Union for Conservation of Nature and Natural Resources

4. International Union Commission of Nature and Natural Resources

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) **International Union for Conservation of Nature and Natural Resources**

Explanation:

IUCN is a global organization that maintains the Red List, which categorizes species based on their risk of extinction.

- Helps in biodiversity conservation and policy-making

- Categories include: Extinct, Endangered, Vulnerable, etc.

CUET Tip: Memorize full forms of key organizations.

Question17

Match List-I with List-II

Characteristics	Examples
(A) Symbiotic association with roots of leguminous plants	(I) Glomus
(B) Fixes atmospheric nitrogen while free living in the soil	(II) Rhizobium
(C) Symbiotic association of fungi and plants	(III) Anabaena
(D) Cyanobacteria which can fix atmospheric nitrogen	(IV) Azotobacter

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)

3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

Correct Answer: (1) (A) – (II), (B) – (IV), (C) – (I), (D) – (III)

Explanation:

This is a matching-type question from NCERT.

Characteristics	Examples
(A) Symbiotic association with roots of leguminous plants	(II) Rhizobium
(B) Fixes atmospheric nitrogen while free living in the soil	(IV) Azotobacter
(C) Symbiotic association of fungi and plants	(I) Glomus
(D) Cyanobacteria which can fix atmospheric nitrogen	(III) Anabaena

CUET Tip: Tabulate microbes and their products for short and quick revision

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Question18

The hormone releasing IUDs function by:

1. Decreasing phagocytosis of sperms within the uterus

2. Activating sperm motility and the fertilising capacity of sperms

3. Making the uterus suitable for implantation and the cervix hostile to the sperms

4. Making the uterus unsuitable for implantation and the cervix hostile to the sperms

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Making the uterus unsuitable for implantation and the cervix hostile to the sperms

Explanation:

Hormone-releasing IUDs (e.g., *LNG-20, Progestasert*):

- Release *progesterone or progestin*

- Prevent implantation by altering uterine lining

- Make cervical mucus thick, hindering sperm entry

Question19

The genetic disorder, Down's Syndrome is caused due to:

1. Deletion of chromosome no. 21

2. Trisomy of chromosome no. 18

3. Trisomy of chromosome no. 21

4. Inversion of chromosome no. 21

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Trisomy of chromosome no. 21

Explanation:

Down Syndrome is caused by trisomy 21, where an individual has three copies of chromosome 21.

- Leads to mental retardation, short stature, and distinct facial features

- Detected via karyotyping

CUET Tip: Recognize chromosomal disorders and their genetic basis.

Question20

Arrange the given structures starting from chalazal end to micropylar end in a mature embryo sac?

(A) Central cell

(B) Antipodals

(C) Synergids

(D) Egg

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)

2. (D), (C), (B), (A)

3. (B), (A), (D), (C)

4. (C), (B), (D), (A)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Correct Answer: (3) (B), (A), (D), (C)

Explanation:

This sequence represents the egg apparatus at the micropylar end of the embryo sac:

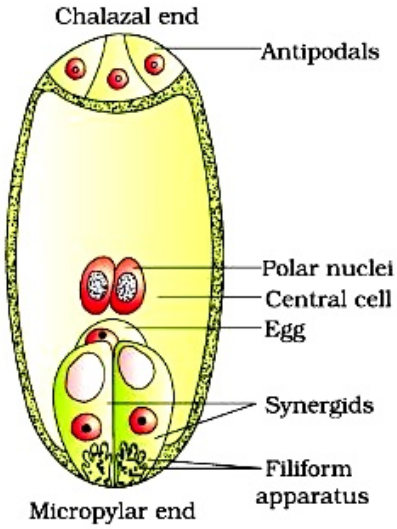
- (B) Synergid

- (A) Egg cell

- (D) Central cell

- (C) Antipodal cells

CUET Tip: Visualize embryo sac structure.



Question21

You must have seen the weed *Calotropis* growing in abandoned fields. The plant produces highly poisonous_____ and that is why you never see any cattle or

goats browsing on this plant.

1. Cardiac amino acids

2. Cardiac glucose

3. Cardiac glycerol

4. Cardiac glycosides

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Cardiac glycosides

Explanation:

Calotropis produces cardiac glycosides, which are toxic compounds that affect heart function.

- These chemicals deter herbivores like cattle from grazing

- A classic example of chemical defense in plants

Question22

Arrange the given structures in correct sequence of spermatogenesis?

(A) Spermatozoa

(B) Secondary spermatocytes

(C) Spermatogonia

(D) Spermatids

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)

2. (D), (C), (B), (A)

3. (B), (A), (D), (C)

4. (C), (B), (D), (A)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) (C), (B), (D), (A)

Explanation:

The stages of spermatogenesis in the correct biological order are:

• *Spermatogonia* (Germ cells -> undergo mitosis to increase number)

• *Primary Spermatocytes* (not listed, but form from Spermatogonia)

• *Secondary Spermatocytes* (Formed after Meiosis I)

• *Spermatids* (Formed after Meiosis II)

• *Spermatozoa* (Spermatids differentiate into mature sperm)

Question23

Identify the correct sequence of events during menstrual cycle?

(A) Next cycle begins

(B) Proliferative phase

(C) Menstruation

(D) Secretory phase

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)

2. (D), (C), (B), (A)

3. (B), (A), (D), (C)

4. (C), (B), (D), (A)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) (C), (B), (D), (A)

Explanation:

This sequence represents menstrual cycle stages:

- (C) Menstruation

- (B) Follicular (proliferation) phase

- (D) Luteal (secretory) phase

- (A) Next cycle begins

CUET Tip: Review menstrual cycle timeline.

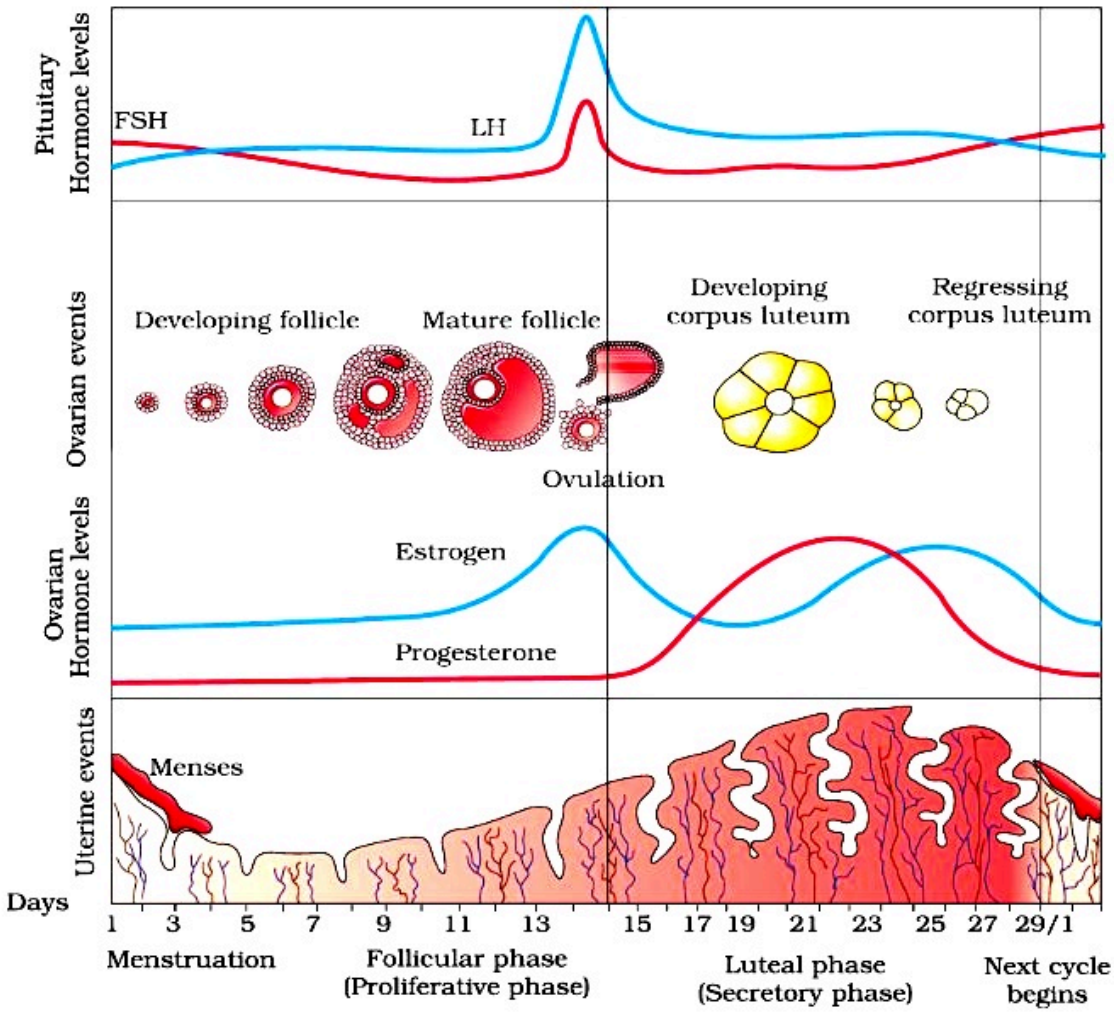


Figure 2.9 Diagrammatic presentation of various events during a menstrual cycle

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Question24

The rate of biomass production is called productivity. It is expressed in terms of_____ to compare the productivity of different ecosystems.

1. (kcal m^{-1}) yr^{-1}

2. (kcal m^{-2}) yr^{-2}

3. (kcal m^{-2}) yr^{-1}

4. (kcal m^{-1}) yr^{-2}

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) (kcal m^{-2} yr^{-1})

Explanation:

Primary productivity is measured as the rate of biomass production:

- Expressed in kilocalories per square meter per year or grams per square meter per year

- Indicates energy flow in ecosystems

Why others are wrong:

Other options show wrong dimensions.

Question25

The "Rivet Popper Hypothesis" was used by:

1. Alexander von Humboldt

2. Paul Ehrlich

3. Hardy-Weinberg

4. Edward Wilson

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) Paul Ehrlich

Explanation:

Paul Ehrlich, a Stanford ecologist, proposed *the rivet popper hypothesis:*

- Compares ecosystem to an airplane losing rivets (species)

- Loss of key species can lead to ecosystem collapse.

Question26

Nicotine stimulates the adrenal gland to release:

(A) Thyroid stimulating hormone (TSH)

(B) Adrenaline

(C) Estrogen

(D) Nor-adrenaline

Choose the *correct* answer from the options given below:

1. (B) and (D) only

2. (A), (B) and (C) only

3. (A), (B), (C) and (D)

4. (B), (C) and (D) only

Options:

A. 1

B. 2

C. 3

D. 4

Answer: A

Solution:

Correct Answer: (1) (B) and (D) only

Explanation:

Nicotine, a stimulant found in tobacco, affects the adrenal glands, triggering the release of *adrenaline*.

- This leads to increased blood pressure and heart rate

- It acts on the central nervous system, causing alertness and dependency

Hence**, Correct statements:**

- (B) Nicotine stimulates adrenal glands

- (D) Adrenaline increases blood pressure and heart rate

Why others are wrong:

- (A) Nicotine decreases heart rate: Incorrect — it increases it

- (C)Nicotine lowers blood pressure: False — it raises BP.

Question27

Select the intra uterine devices from the following:

(A) Multiload 375

(B) Saheli

(C) Cervical caps

(D) Progestasert

Choose the *correct* answer from the options given below:

1. (A) and (D) only

2. (A), (B) and (C) only

3. (A), (B), (C) and (D)

4. (B), (C) and (D) only

Options:

A. 1

B. 2

C. 3

D. 4

Answer: A

Solution:

Correct Answer: (1) (A) and (D) only

Explanation:

Intrauterine Devices (IUDs) are classified into three types:

- (A) Non-medicated IUDs (e.g., *Lippes Loop*)

- (B) Copper-releasing IUDs (e.g., *CuT, Cu7, Multiload 375*)

- (C) Hormone-releasing IUDs (e.g., *LNG-20, Progestasert*)

Only (A) and (D) are correct in this context.

Why others are wrong:

- (B) and (C) are pill and barrier type examples

- The question asks for IUDs, and only (A) and (D) are the IUDs.

Question28

Match List-I with List-II

List-I	List-II
Evolutionary stages of human species	**Time of origin**
(A) *Ramapithecus*	(I) About 1.5 million years ago
(B) Neanderthal man	(II) About 2 million years ago
(C) *Australopithecines*	(III) 1,00,000-40,000 years ago
(D) Homo erectus	(IV) About 15 million years ago

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)

2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

3. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

4. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: B

Solution:

Correct Answer: (2) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

Explanation:

This is a matching-type question based on evolutionary concepts:

Evolutionary stages of human species	Time of origin
(A) *Ramapithecus*	(IV) About 15 million years ago
(B) Neanderthal man	(III) About 1,00,000-40,000 years ago
(C) *Australopithecines*	(II) About 2 million years ago
(D) *Homo erectus*	(I) About 1.5 million years ago

CUET Tip: Practice evolutionary examples and definitions.

Question29

Baculoviruses are pathogens that attack -

1. Birds and other mammals

2. Bacteria and other fungi

3. Plants and other algae

4. Insects and other arthropods

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Insects and other arthropods

Explanation:

Baculoviruses are used as biopesticides targeting insects and arthropods.

- They are host-specific and do not harm humans, plants, or vertebrates

Why others are wrong:

Other options include organisms which are not targeted by it.

Question30

The second trophic level in an aquatic ecosystem is:

1. Phytoplanktons

2. Fishes

3. Large fishes

4. Zooplanktons

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Zooplanktons

Explanation:

Zooplanktons are primary consumers in aquatic ecosystems.

- They feed on *phytoplankton* (producers)

- Belong to the second trophic level

Why others are wrong:

- (1) *Phytoplanktons*: Producers (first trophic level)

- (2) Fishes: Consumers (secondary consumers)

- (3) Large fishes: Higher trophic levels.

Question31

Match List-I with List-II

List-I	**List-II**
Geological periods	**Plants evolved**
(A) Devonian	(I) Gnetales
(B) Carboniferous	(II) Cycads
(C) Jurassic	(III) Seed ferns
(D) Cretaceous	(IV) Progymnopserms

Choose the correct answer from the options given below:

1. (A) (I), (B) (II), (C) (III), (D) - (IV)

2. (A) (I), (B) - (II), (C) - (IV), (D) - (III)

3. (A) (IV), (B) (III), (C) (II), (D) - (1)

4. (A) (III), (B) (IV), (C) (I), (D) - (II)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: C

Solution:

Correct Answer: (3) (A) – (IV), (B) – (III), (C) – (II), (D) – (I)

Explanation:

This matches geological time periods with evolutionary events.

- Based on NCERT timeline diagram.

CUET Tip: Watch for timeline-based diagrams.

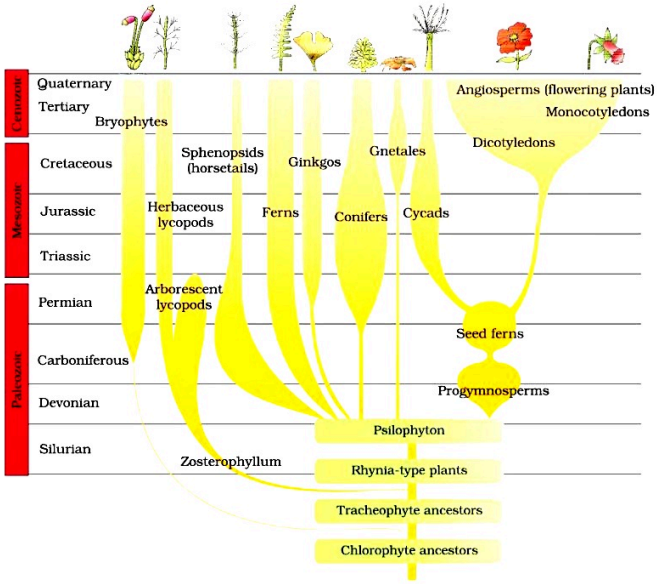

Figure 6.9 A sketch of the evolution of plant forms through geological periods

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Question32

The inner cell mass of the embryo contains some cells which can give rise to all the tissues and organs. They are known as:

1. Ectoderm

2. Blastomeres

3. Trophoblast

4. Stem cells

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Stem cells

Explanation:

The *inner cell mass* of a *blastocyst* **contains *pluripotent* stem cells.**

- Can differentiate into various tissues

- Used in regenerative medicine

Question33

Zygote or embryos upto 8 blastomeres can be transferred into the fallopian tube for further development. The procedure is known as:

1. Zygote intra fallopian transfer (ZIFT)

2. Gamete intra fallopian transfer (GIFT)

3. Intra cytoplasmic sperm injection (ICSI)

4. Intra-uterine insemination (IUI)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: A

Solution:

Correct Answer: (1) *Zygote intra fallopian transfer (ZIFT)*

Explanation:

ZIFT involves transferring a zygote or early embryo into the fallopian tube.

- Done after in vitro fertilisation

- Suitable for women with normal tubes

Why others are wrong:

- (2) *GIFT*: Transfers gametes, not zygote

- (3) *ICSI*: Injects sperm into egg, not a transfer method

- (4) *IUI*: Transfers sperms into uterus

CUET Tip: Recall assisted reproductive techniques.

Question34

Cyclosporin A, which is used as an immunosuppressive agent, is produced by:

1. *Staphylococcus*

2. *Penicillium notatum*

3. *Trichoderma polysporum*

4. *Monascus purpureus*

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) *Trichoderma polysporum*

Explanation:

Cyclosporin-A, an immunosuppressant, is produced by *T. polysporum*.

- Used in organ transplant to prevent rejection

Why others are wrong:

- (1) *Staphylococcus*: It is the bacteria on which Alexander Fleming was doing experiment.

- (2) *Penicillium notatum:* Produces penicillin

- (4) *Monascus purpureus*: Produces statins

CUET Tip: Tabulate microbes and their products

Question35

The pyramid of biomass in the sea is -

1. Always upright

2. Upright

3. Inverted

4. Neither inverted nor upright

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Inverted

Explanation:

This refers to the inverted pyramid of biomass in aquatic ecosystem.

CUET Tip: Watch for NCERT diagrams in ecosystem.

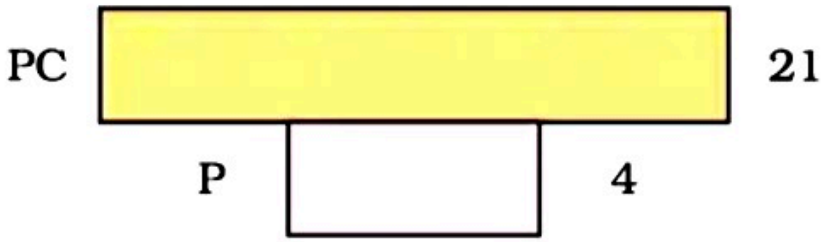

Figure 12.4 (c) Inverted pyramid of biomass-small standing crop of phytoplankton supports large standing crop of zooplankton

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Question36

Arrange the given structures in correct sequence of transcription unit when we move from left to right?

(A) Terminator

(B) Promoter

(C) Structural gene

(D) Transcription start site

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)

2. (B), (D), (C), (A)

3. (B), (A), (D), (C)

4. (C), (B), (D), (A)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) (B), (D), (C), (A)

Explanation:

This sequence follows the correct order of molecular biology steps.

- Based on NCERT diagrams

CUET Tip: Practice NCERT flowcharts and diagrams.

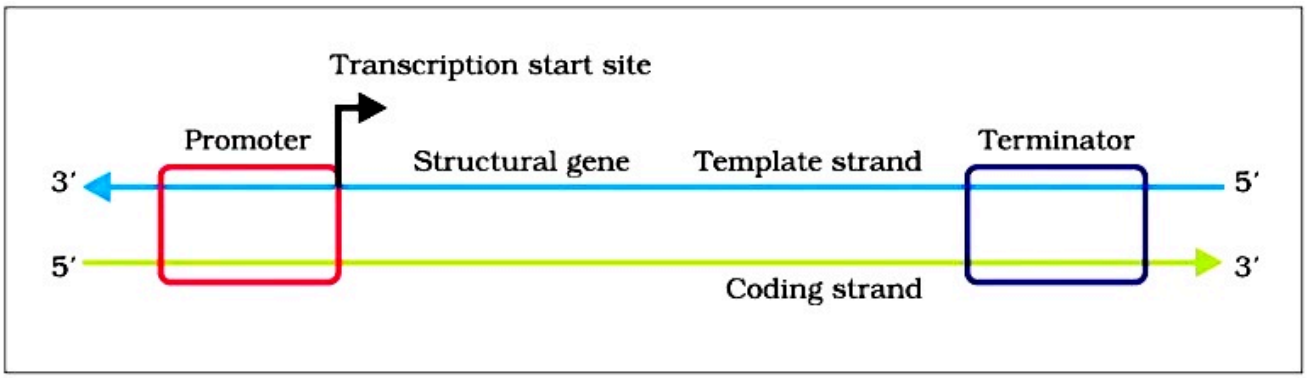

Figure 5.9 Schematic structure of a transcription unit

Question37

Choose the scientists associated with the antibiotic "Penicillin":

(A) Alexander Fleming

(B) James Watson

(C) Ernest Chain

(D) Howard Florey

Choose the *correct* answer from the options given below:

1. (A), (B) and (D) only

2. (A), (B) and (C) only

3. (A), (B), (C) and (D)

4. (A), (C) and (D) only

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) (A), (C), and (D) only

Explanation:

Penicillin was discovered by *Alexander Fleming*, and its medical use was developed by *Chain and Florey.*

- All three received the ***Nobel Prize***

CUET Tip: Remember key discoveries and scientific achievements.

Question38

Arrange the given taxa of invertebrates in terms of their increasing numbers.

(A) Other animal groups

(B) Molluscs

(C) Insects

(D) Crustaceans

Choose the correct answer from the options given below:

1. (A), (B), (C), (D)

2. (A), (C), (B), (D)

3. (D), (B), (A), (C)

4. (C), (B), (D), (A)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) (D), (B), (A), (C)

Explanation:

This sequence follows the correct order of invertebrates occurrence as per NCERT diagrams.

CUET Tip: Practice NCERT diagrams .

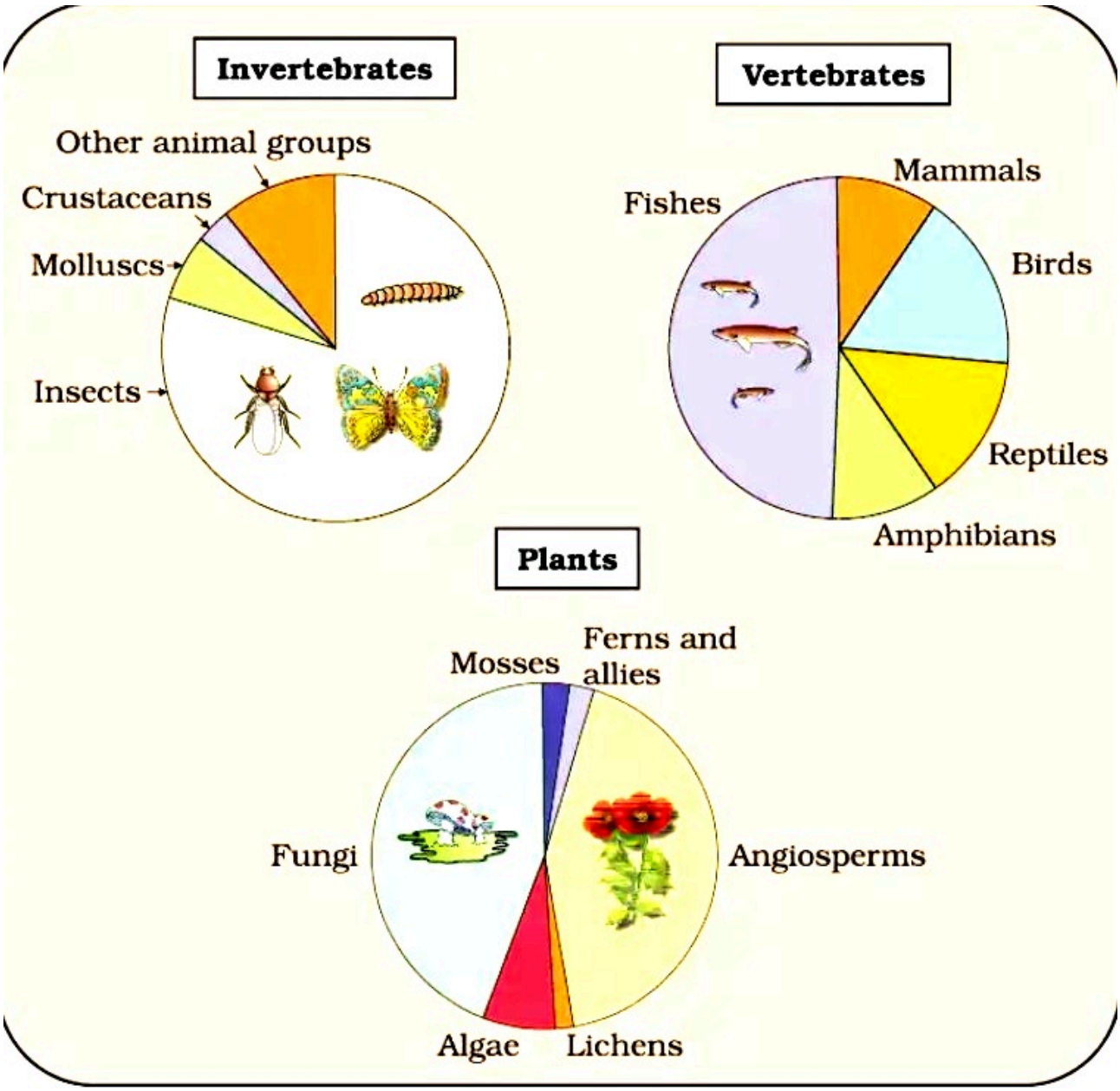

Figure 13.1 *Representing global biodiversity: proportionate number of species of major taxa of plants, invertebrates and vertebrates*

Question39

Match List-I with List-II

List-I	List-II
Structures	**Characteristics**
(A) Heterochromatin	(I) A set of positively charged basic proteins

(B) Nucleosomes	(II) Densely packed and inactive genetic material
(C) Histones	(III) Transcriptionally active genetic material
(D) Euchromatin	(IV) DNA is wrapped around the histone octamer to form this structure

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)

3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)

4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options:

A.

1

B.

2

C.

3

D.

4

Answer: A

Solution:

Answer: (1) (A) – (II), (B) – (IV), (C) – (I), (D) – (III)

Explanation:

This is a matching-type question from molecular biology:

Structures	Characteristics
(A) Heterochromatin	(II) Densely packed and inactive genetic material
(B) Nucleosomes	(IV) DNA is wrapped around the histone octamer to form this structure
(C) Histones	(I) A set of positively charged basic proteins
(D) Euchromatin	(III) Transcriptionally active genetic material

---

Question40

Identify one of the given factors which does not affect Hardy-Weinberg equilibrium.

1. Mutation

2. Genetic drift

3. Reproduction

4. Gene flow

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Reproduction

Explanation:

Hardy-Weinberg equilibrium is affected by:

- *Gene migration*

- *Genetic drift*

- *Mutation*

- *Genetic recombination*

- *Natural selection*

Reproduction does not disturb allele frequencies directly.

Why others are wrong:

- (1), (2), (4): All are valid factors that affect equilibrium

---

Question41

Read the following passage carefully and answer the given questions.

Some strains of *Bacillus thuringiensis* produce proteins that kill certain insects such as lepidopterans (tobacco budworm, armyworm),

coleopterans (beetles) and dipterans (flies, mosquitoes). *B. thuringiensis* forms protein crystals during a particular phase of their growth. Transgenic animals that produce useful biological products can be created by the introduction of the portion of DNA (or genes) which codes for a particular product such as human protein (a-1-antitrypsin) used to treat emphysema. In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per litre). The milk contained the human alpha-lactalbumin and was nutritionally a more balanced product for human babies than natural cow-milk. A nematode *Meloidegyne incognitia* infects the roots of tobacco plants and causes a great reduction in yield. A novel strategy was adopted to prevent this infestation which was based on the process of RNA interference (RNAi). This method involves silencing of a specific mRNA due to a complementary dsRNA molecule that binds to and prevents translation of the mRNA (silencing). Biopiracy is the term used to refer to the use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment. ELISA is based on the principle of antigen-antibody interaction. Infection by pathogen can be detected by the presence of antigens (proteins, glycoproteins, etc.) or by detecting the antibodies synthesised against the pathogen.

Biopiracy is the term used to refer:

1. The use of bio-resources by multinational companies and other organisations with proper authorisation from the countries and people concerned with compensatory payment.

2. The use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned with compensatory payment.

3. The use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment.

4. The use of bio-resources by multinational companies and other organisations with proper authorisation from the countries and people concerned without compensatory payment.

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) The use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment.

Explanation:

Biopiracy refers to unauthorized exploitation of biological resources and traditional knowledge.

- Often done by multinational companies

- Violates ethical and legal norms

Why others are wrong:

- (1), (2), (4): Do not capture the full scope of unauthorized use and lack of compensation

CUET Tip: Link ethics and law concepts from biotechnology.

Question42

Read the following passage carefully and answer the given questions.

Some strains of *Bacillus thuringiensis* produce proteins that kill certain insects such as lepidopterans (tobacco budworm, armyworm), coleopterans (beetles) and dipterans (flies, mosquitoes). *B. thuringiensis* forms protein crystals during a particular phase of their growth. Transgenic animals that produce useful biological products can be created by the introduction of the portion of DNA (or genes) which codes for a particular product such as human protein (a-1-antitrypsin) used to treat emphysema. In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per

litre). The milk contained the human alpha-lactalbumin and was nutritionally a more balanced product for human babies than natural cow-milk. A nematode *Meloidegyne incognitia* infects the roots of tobacco plants and causes a great reduction in yield. A novel strategy was adopted to prevent this infestation which was based on the process of RNA interference (RNAi). This method involves silencing of a specific mRNA due to a complementary dsRNA molecule that binds to and prevents translation of the mRNA (silencing). Biopiracy is the term used to refer to the use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment. ELISA is based on the principle of antigen-antibody interaction. Infection by pathogen can be detected by the presence of antigens (proteins, glycoproteins, etc.) or by detecting the antibodies synthesised against the pathogen.

In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per litre). The milk contained a protein called_____ which was nutritionally a more balanced product for human babies than natural cow-milk.

1. Human alpha-lactoglobulin

2. Human beta-lactalbumin

3. Bovine alpha-lactalbumin

4. Human alpha-lactalbumin

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Human alpha-lactalbumin

Explanation:

Rosie, the transgenic cow, produced milk enriched with ***human alpha-lactalbumin.***

- Improves nutritional quality for infants

- Example of transgenic animal application

Question43

Read the following passage carefully and answer the given questions.

Some strains of *Bacillus thuringiensis* produce proteins that kill certain insects such as lepidopterans (tobacco budworm, armyworm), coleopterans (beetles) and dipterans (flies, mosquitoes). *B. thuringiensis* forms protein crystals during a particular phase of their growth. Transgenic animals that produce useful biological products can be created by the introduction of the portion of DNA (or genes) which codes for a particular product such as human protein (a-1-antitrypsin) used to treat emphysema. In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per litre). The milk contained the human alpha-lactalbumin and was nutritionally a more balanced product for human babies than natural cow-milk. A nematode *Meloidegyne incognitia* infects the roots of tobacco plants and causes a great reduction in yield. A novel strategy was adopted to prevent this infestation which was based on the process of RNA interference (RNAi). This method involves silencing of a specific mRNA due to a complementary dsRNA molecule that binds to and prevents translation of the mRNA (silencing). Biopiracy is the term used to refer to the use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment. ELISA is based on the principle of antigen-antibody interaction. Infection by pathogen can be detected by the presence of

antigens (proteins, glycoproteins, etc.) or by detecting the antibodies synthesised against the pathogen.

mRNA silencing through RNA interference (RNAi) refers to the:

1. Prevention of translation of mRNA

2. Prevention of transcription of mRNA

3. Prevention of replication of mRNA

4. Prevention of reverse transcription of mRNA

Options:

A. 1

B. 2

C. 3

D. 4

Answer: A

Solution:

Correct Answer: (1) Prevention of translation of mRNA

Explanation:

RNA interference (RNAi) silences gene expression by:

- Binding complementary double-stranded RNA to mRNA

- Preventing translation

Why others are wrong:

- (2) Preventing transcription: RNAi acts post-transcription

- (3) Blocking replication: RNAi doesn't affect DNA replication

- (4) Preventing reverse transcription of mRNA: Not related to RNAi

CUET Tip: Focus on gene silencing methods

Question44

Read the following passage carefully and answer the given questions.

Some strains of *Bacillus thuringiensis* produce proteins that kill certain insects such as lepidopterans (tobacco budworm, armyworm), coleopterans (beetles) and dipterans (flies, mosquitoes). *B. thuringiensis* forms protein crystals during a particular phase of their growth. Transgenic animals that produce useful biological products can be created by the introduction of the portion of DNA (or genes) which codes for a particular product such as human protein (a-1-antitrypsin) used to treat emphysema. In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per litre). The milk contained the human alpha-lactalbumin and was nutritionally a more balanced product for human babies than natural cow-milk. A nematode *Meloidegyne incognitia* infects the roots of tobacco plants and causes a great reduction in yield. A novel strategy was adopted to prevent this infestation which was based on the process of RNA interference (RNAi). This method involves silencing of a specific mRNA due to a complementary dsRNA molecule that binds to and prevents translation of the mRNA (silencing). Biopiracy is the term used to refer to the use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment. ELISA is based on the principle of antigen-antibody interaction. Infection by pathogen can be detected by the presence of antigens (proteins, glycoproteins, etc.) or by detecting the antibodies synthesised against the pathogen.

Some strains of *Bacillus thuringiensis* produce proteins that do not kill certain arthropods, such as:

1. Lepidopterans

2. Coleopterans

3. Crustaceans

4. Dipterans

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) *Crustaceans*

Explanation:

Bt toxins from *Bacillus thuringiensis* affect:

- Lepidopterans (moths)

- Coleopterans (beetles)

- Dipterans (flies, mosquitoes)

Crustaceans are not affected.

CUET Tip: Memorise host ranges for *bioinsecticides.*

Question45

Read the following passage carefully and answer the given questions.

Some strains of *Bacillus thuringiensis* produce proteins that kill certain insects such as lepidopterans (tobacco budworm, armyworm), coleopterans (beetles) and dipterans (flies, mosquitoes). *B. thuringiensis* forms protein crystals during a particular phase of their growth. Transgenic animals that produce useful biological products can be created by the introduction of the portion of DNA (or genes) which codes for a particular product such as human protein (a-1-antitrypsin) used to treat emphysema. In 1997, the first transgenic cow, Rosie, produced human protein-enriched milk (2.4 grams per litre). The milk contained the human alpha-lactalbumin and was nutritionally a more balanced product for human babies than natural cow-milk. A nematode *Meloidegyne incognitia* infects the roots of

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ELISA is based on the principle of:

1. Antigen-antibiotic interaction

2. Antibody-antibiotic interaction

3. Antigen-antigen interaction

4. Antigen-antibody interaction

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) Antigen-antibody interaction

Explanation:

ELISA detects infections by identifying:

- Antigens or antibodies in the sample

- Based on specific binding between antigen and antibody

CUET Tip: Understand diagnostic principles.

Question46

Read the following passage carefully and answer the given questions.

Restriction endonuclease on finding its specific recognition sequence, bind to the DNA and cut each of the two strands of the double helix at specific points in their sugar -phosphate backbones. Each restriction endonuclease recognises a specific palindromic nucleotide sequences in the DNA. Since the DNA is enclosed within the membranes, we have to break the cell open to release DNA along with other macromolecules such as RNA, proteins, polysaccharides and also lipids. This can be achieved by treating the bacterial cells/plant or animal tissue with enzymes such as lysozyme (bacteria), cellulase (plant cells), chitinase (fungus). Now a days the most commonly used matrix is agarose which is a natural polymer extracted from sea weeds. The DNA fragments separate (resolve) according to their size through sieving effect provided by the agarose gel. The first restriction endonuclease-*Hind II*, whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later. It was found that *Hind II* always cut DNA molecules at a particular point by recognising a specific sequence of six base pairs. In addition to 'ori', the vector requires a selectable marker, which helps in identifying and eliminating non-transformants and selectively permitting the growth of the transformants. Transformation is a procedure through which a piece of DNA is introduced in a host bacterium. Normally, the genes encoding resistance to antibiotics such as ampicillin, chloramphenicol, tetracycline or kanamycin, etc., are considered useful selectable markers for *E. coli.*

Transformation is a procedure through which:

1. A piece of DNA is introduced in a host virus

2. A piece of RNA is introduced in a host bacterium

3. A piece of DNA is introduced in a host bacterium

4. A piece of protein is introduced in a host bacterium

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) A piece of DNA is introduced in a host bacterium

Explanation:

Transformation is a genetic engineering step where:

- Foreign DNA is introduced into a host bacterium

- Enables recombinant DNA technology

CUET Tip: Learn steps in genetic engineering.

Question47

Read the following passage carefully and answer the given questions.

Restriction endonuclease on finding its specific recognition sequence, bind to the DNA and cut each of the two strands of the double helix at specific points in their sugar -phosphate backbones. Each restriction endonuclease recognises a specific palindromic nucleotide sequences in the DNA. Since the DNA is enclosed within the membranes, we have to break the cell open to release DNA along with other macromolecules such as RNA, proteins, polysaccharides and

also lipids. This can be achieved by treating the bacterial cells/plant or animal tissue with enzymes such as lysozyme (bacteria), cellulase (plant cells), chitinase (fungus). Now a days the most commonly used matrix is agarose which is a natural polymer extracted from sea weeds. The DNA fragments separate (resolve) according to their size through sieving effect provided by the agarose gel. The first restriction endonuclease-*Hind II*, whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later. It was found that *Hind II* always cut DNA molecules at a particular point by recognising a specific sequence of six base pairs. In addition to 'ori', the vector requires a selectable marker, which helps in identifying and eliminating non-transformants and selectively permitting the growth of the transformants. Transformation is a procedure through which a piece of DNA is introduced in a host bacterium. Normally, the genes encoding resistance to antibiotics such as ampicillin, chloramphenicol, tetracycline or kanamycin, etc., are considered useful selectable markers for *E. coli*.

A natural polymer extracted from sea weeds used in the field of biotechnology is:

1. Adipose

2. Agarose

3. Dextrose

4. Fucose

Options:

A. 1

B. 2

C. 3

D. 4

Answer: B

Solution:

Correct Answer: (2) *Agarose*

Explanation:

Agarose gel electrophoresis is used to separate DNA fragments.

- *Agarose* is a seaweed-derived polymer

- DNA moves based on size and negative charge (due to phosphate groups), they are loaded into an *agarose* gel and subjected to an electric field, causing them to migrate toward the positive electrode (anode).

-The gel acts like a sieve, so smaller fragments move faster and travel farther than larger fragments.

-After the process, the separated DNA bands are made visible by staining the gel with compounds like ethidium bromide and viewing them under UV light.

Question48

Read the following passage carefully and answer the given questions.

Restriction endonuclease on finding its specific recognition sequence, bind to the DNA and cut each of the two strands of the double helix at specific points in their sugar -phosphate backbones. Each restriction endonuclease recognises a specific palindromic nucleotide sequences in the DNA. Since the DNA is enclosed within the membranes, we have to break the cell open to release DNA along with other macromolecules such as RNA, proteins, polysaccharides and also lipids. This can be achieved by treating the bacterial cells/plant or animal tissue with enzymes such as lysozyme (bacteria), cellulase (plant cells), chitinase (fungus). Now a days the most commonly used matrix is agarose which is a natural polymer extracted from sea weeds. The DNA fragments separate (resolve) according to their size through sieving effect provided by the agarose gel. The first restriction endonuclease-*Hind II*, whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later. It was found that *Hind II* always cut DNA molecules at a particular point by recognising a specific sequence of six base pairs. In addition to 'ori', the vector requires a selectable marker, which

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Chitinase is used to disrupt the membranes of:

1. Bacterial cells

2. Plant cells

3. Fungal cells

4. Virus

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Fungal cells

Explanation:

DNA isolation requires specific enzymes based on the cell type:

- ***Chitinase*** is used to break down fungal cell walls (made of chitin)

- Other enzymes include:

- Lysozyme for bacterial cells

- Cellulase for plant cells

Why others are wrong:

- (1) Bacterial cells: Use lysozyme, not chitinase

- (2) Plant cells: Use cellulase

- (4) Virus: Do not require chitinase

CUET Tip: Match enzymes to cell types.

Question49

Read the following passage carefully and answer the given questions.

Restriction endonuclease on finding its specific recognition sequence, bind to the DNA and cut each of the two strands of the double helix at specific points in their sugar -phosphate backbones. Each restriction endonuclease recognises a specific palindromic nucleotide sequences in the DNA. Since the DNA is enclosed within the membranes, we have to break the cell open to release DNA along with other macromolecules such as RNA, proteins, polysaccharides and also lipids. This can be achieved by treating the bacterial cells/plant or animal tissue with enzymes such as lysozyme (bacteria), cellulase (plant cells), chitinase (fungus). Now a days the most commonly used matrix is agarose which is a natural polymer extracted from sea weeds. The DNA fragments separate (resolve) according to their size through sieving effect provided by the agarose gel. The first restriction endonuclease-*Hind II,* whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later. It was found that *Hind II* always cut DNA molecules at a particular point by recognising a specific sequence of six base pairs. In addition to 'ori', the vector requires a selectable marker, which helps in identifying and eliminating non-transformants and selectively permitting the growth of the transformants. Transformation is a procedure through which a piece of DNA is introduced in a host bacterium. Normally, the genes encoding resistance to antibiotics such as ampicillin, chloramphenicol, tetracycline or kanamycin, etc., are considered useful selectable markers for *E. coli*

Hind II* always cut DNA molecules at a particular point by identifying a specific sequence of six base pairs. This specific base sequence is called_____ for *Hind II.

1. Restriction endonuclease

2. Antibiotic resistance gene

3. Recognition sequence

4. Origin of replication (ori)

Options:

A. 1

B. 2

C. 3

D. 4

Answer: C

Solution:

Correct Answer: (3) Recognition sequence

Explanation:

Restriction enzymes like *Hind II* cut DNA at ***specific recognition sequences.***

- *Hind II* recognizes a six-base pair sequence

- Ensures precise DNA fragment generation for cloning

CUET Tip: Memorise cutting site concepts for restriction enzymes.

Question50

Read the following passage carefully and answer the given questions.

Restriction endonuclease on finding its specific recognition sequence, bind to the DNA and cut each of the two strands of the double helix at specific points in their sugar -phosphate backbones. Each restriction endonuclease recognises a specific palindromic nucleotide sequences in the DNA. Since the DNA is enclosed within the membranes, we have to break the cell open to release DNA along with

other macromolecules such as RNA, proteins, polysaccharides and also lipids. This can be achieved by treating the bacterial cells/plant or animal tissue with enzymes such as lysozyme (bacteria), cellulase (plant cells), chitinase (fungus). Now a days the most commonly used matrix is agarose which is a natural polymer extracted from sea weeds. The DNA fragments separate (resolve) according to their size through sieving effect provided by the agarose gel. The first restriction endonuclease-*Hind II,* whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later. It was found that *Hind II* always cut DNA molecules at a particular point by recognising a specific sequence of six base pairs. In addition to 'ori', the vector requires a selectable marker, which helps in identifying and eliminating non-transformants and selectively permitting the growth of the transformants. Transformation is a procedure through which a piece of DNA is introduced in a host bacterium. Normally, the genes encoding resistance to antibiotics such as ampicillin, chloramphenicol, tetracycline or kanamycin, etc., are considered useful selectable markers for *E. coli.*

Each restriction endonuclease recognises a specific_____ in the DNA.

1. Homologous nucleotide sequences

2. Non-palindromic nucleotide sequences

3. Inverted nucleotide sequences

4. Palindromic nucleotide sequences

Options:

A. 1

B. 2

C. 3

D. 4

Answer: D

Solution:

Correct Answer: (4) **Palindromic nucleotide sequence**

Explanation:

Restriction endonucleases recognize **palindromic sequences** in DNA:

- These are sequences that read the same forward and backward on complementary strands

- Example: **GAATTC** (*EcoRI* recognition site)

CUET Tip: Identify sequence types relevant to DNA tools.