

Get Ready to Crack CSIR-NET 2021 (Most Important Questions On Auxin Hormone)

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Sahi Prep Hai Toh Life Set Hai



1.In the following table match the correct columns:-

	Column	Column
Ρ.	Auxin	1. Embryogenesis
Q.	Protoplast culture	2. 6-Furfurylaminopurine
R.	Cytokinin	3. Pectinase and Cellulase
S.	Microspore culture	4. Indole-3-acetic acid
A. P- 3 ,Q-4		B. Q- 2,R-1

C. R-1,S-1

D. P-4,Q-3

Ans. D

Sol.

- Auxin is Indol 3 acitic acid.
- Protoplast culture is related to pectinase and cellulose.
- Cytokinin is 6-Furfurylaminopurine.
- Microspore culture is related to embryogenesis So, (d) is Ans.
- 2. The structure of this Auxin hormone is related to one of the following amino acids?

D. Tryptophan

- A. Glutamic acid
- B. Aspartic acid
- C. Lysine

Ans. D





Figure 1: The indole-3-acetic acid (IAA) biosynthesis pathway.

So d is ans.



3. Choose the correct option to match Plant Growth Regulators with their corresponding precursor molecules:-

	Phytohormone	Precursor molecules
Ρ.	Brassinolide	1. L-Tryptophan
Q.	Cytokinin	2. Methionine
R.	Ethylene	3. Campesterol
S.	Auxin	4. Alpha-linolenic acid

A P-3, S-1

B. Q- 3 ,S- 2

C. R- 3, S-2

D. S-3, R-4

Ans- A

Sol.

- Auxin is the precursor of Tryptophane
- Alpha-linolenic acid is a component of the Jasmonic acid Biosynthesis pathway
- Brassinolide is derived from plant sterol Campesterol

So, ans is A

4. Choose the incorrect option regarding to polar transport of auxin

A. Polar auxin transport in root tends to be both acropetal and basipetal in direction

B. NPA is not an inhibitor of polar auxin transport

C. AUXI and PINI proteins are located in the opposite ends of the

cell for polar transport

Ans-B

Sol. NPA (Napthylphthalamic acid) is the inhibitor of Polar Auxin Transport, so B is incorrect. All other options regarding polar transport is correct.

So, B is correct. (as we have to choose the INCORRECT option).



5. Given Column A and Column B

	Column A	Column B
Ρ.	Auxin	a. Delayed leaf senescence
Q.	Gibberellins	b.Epinasty bending of leaves
R.	Cytokinin	c.Polar Transport
S.	Ethylene	d.Removal of seed dormancy

The correct set of combinations from the options given below:-

A. P-c, Q- d, R-a

B. P-d, Q-a, R-c

D. P-c, Q-d, R-c

C. P-b, Q- c, R-a

Ans- A

Sol.

- Auxin hormone transport is polar
- Gibberellin is responsible for the removal of dormancy.
- Cytokinin delays Senescence,

So, Ans will be 1.

6. Given below Auxin signal transduction pathway

a. ARFs are nuclear proteins that bind to auxin response elements to activate or repress gene transcription.

b. AUXIIAA proteins are secondary regulators of auxin-induced gene expression, Binding of AUX/IAA proteins to the ARF protein blocks its transcription regulation,

c. Auxin binding to TIRI/AFB promotes ubiquitin-mediated degradation and removal of AUX/IAA proteins.

d. Auxin binding to auxin response factors (ARFs) causes their destruction by the 26S proteasome pathway.

Which one of the following combinations of the above statements is correct?

A. a, b, c	B. b. c, d
C. a ,c, d	D. d ,c ,b



Ans. A

Sol



According to the pathway shown option 4 is incorrect since ARF is not degraded by proteasome-mediated pathway Instead AUX/IAA is degraded.so ans A is correct.

7. Plants make several hormones that are important for growth and development.

Some statements on plant hormones are given below:

A. Auxin is produced primarily in the root apices

B. Cytokinins are a smaller group of related compounds.

C. Gibberellins are a large group of related compounds defined not by their biological functions but by their biological functions but by their structures.

D. Brassinosteroids are an important class of plant hormones, which control a broad spectrum of developmental responses including pollen tube growth.

Which one of the following combinations of the above statements is correct?

- A. A,B and C
- B. C and D
- C. A, C and D
- D. A, B and D

Sol. A option is incorrect since Auxin is primarily produced in shoot apical meristem. So, b is correct answer.



8. Select the CORRECT set comprising only the synthetic analogues of Auxin and cytokinin:

- A. IAA and Kinetin
- B. 2. 4-D and Zeatin
- C. IAA and Zeatin
- D. 2, 4-D and Kinetin

Ans-D

Sol-

- 2,4-D is the synthetic form of Auxin
- And Kinetin is the synthetic form of Cytokinine So,d is correct.

9. Statements for regeneration of plants from explants/tissue are given below:-

A. If Cytokinin/ Auxin ratio is more root will development more

B. If Auxin/Cytokinin ratio is more shoot development occurs

C. If auxin /Cytokinin ratio root will grow more.

D. If auxin/ cytokinin is less shoot will development

Which of the following combinations of the above statements is true?

A. C,D	В. А,Е
С. А,С	D. B,C

Ans-A

Sol- Cytokinine is responsible for shoot growth and auxin is for root. So if auxin/cytokinin is more root will grow more similarly if Auxin/cytokinin ratio is less shoot will grow more.So, the auxin and cytokinin ratio is very important.

So ,A is correct ans.

10. Some seeds were planted on plates medium. Seeds were found to germinate late . What may be the reason behind it?

A. Jasmonic acid

B.Cytokinin

C.Auxin

D. Abscisic acid

Ans. D

Sol. Abscisic acid because it inhibits precocious germination



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