

Plant Growth & Development

- 1. Development is
 - A) Growth
 - B) Differentiation
 - C) Growth + differentiation
 - D) Growth differentiation

Paragraph 15.1

Growth

- Growth of living being is/are- (Pg. 240, E)A) Irreversible
 - B) Increase in size
 - C) Increase in weight
 - D) All of these
- 3. Swelling of piece of wood when placed in water is (Pg. 240, E)
 - A) Growth but not development
 - B) Development but not growth
 - C) No growth and development
 - D) Both growth & development

Paragraph 15.1.1

<u>Plant Growth Generally is</u> <u>Indeterminate</u>

(Pg. 240, E)

(Pg. 239, E)

- 4. Plant growsA) For a limited time in life
 - B) For a very long time in life
 - C) For a very short time in a life
 - D) For unlimited time throughout life
- 5. The given figure shows- (Pg. 240, M)



- A) Germination & development in bean
- B) Germination & development in maize
- C) Germination & development in pea
- D) Germination & development in gram6. Plant grows throughout the life due to-

(Pg. 240, E)

- A) Meristematic tissue
- B) Parenchyma tissue
- C) Epidermal tissue
- D) More than one option is correct
- 7. Open form of growth involves (Pg. 240, E)

- A) Continuous division in all cells forming new set of cells which divide further necessarily.
- B) Division in some cells forming new set of cells which do not divide further necessarily
- C) No division at all
- D) Division in some cells at the time of injury which forms new set of cells to heal the injury
- 8. Secondary growth does occur in-

(Pg. 240, E)

- A) All angiosperms and no gymnosperms
- B) Some angiosperm and gymnosperms
- C) No angiosperm and only gymnosperms
- D) All angiosperm and all gymnosperms
- 9. Secondary growth does not mean-

(Pg. 240, E)

- A) Increase in length of plant
- B) Increase in girth of plant
- C) Increase in diameter in plant
- D) Both A & C





Choose the correct label-

		L.	rg. 241, Dj
	(i)	(ii)	(iii)
Α	Shoot	Root	Vascular
	apical	apical	cambium
	meristem	meristem	
В	Root apical	Shoot	Vascular
	meristem	apical	cambium
		meristem	

С	Shoot	Root	Vascular
	parenchym	parenchy	bundle
	а	ma	
D	Root	Shoot	Vascular
	parenchym	parenchy	bundle
	а	ma	

Paragraph 15.1.2 Growth is <u>Measurable</u>

- 11. Growth can be measured by measuring increase in (Pg. 241, E)
 - A) Amount of protoplasm
 - B) Dry weight
 - C) Cell number
 - D) Both B & C
- 12. Match the column in respect with the measurement growth- (Pg. 241, E)

	0		
	Column I		Column II
а	Maize	i	Length
b	Watermelon	ii	Surface area
с	Pollen tube	iii	Cell number
d	Dorsiventral	iv	Cell size
	leaf		

- A) a-iii, b-iv, c-i, d-ii
- B) a-iii, b-ii, c-i, d-iv
- C) a-iv, b-iii, c-i, d-ii
- D) a-i, b-ii, c-iv, d-iii

Paragraph 15.1.3 Phases of Growth

- 13. The three phases of growth in correct order is- (Pg. 241, E)
 - A) Meristematic, maturation, elongation
 - B) Elongation, meristematic, maturation
 - C) Meristematic, elongation, maturation
 - D) Elongation, maturation, meristematic
- 14. Cells in meristematic phase of growth-
 - (Pg. 241, E)
 - A) Have small nuclei
 - B) Have low plasmodesmatal connections
 - C) Have thick cell wall
 - D) Are rich in protoplasm
- 15. The phase of maturation lies- (Pg. 241, E)

- A) Proximal to cells undergoing elongation, towards the tip
- B) Proximal to cells undergoing elongation, away from the tip
- C) Proximal to cells of meristematic zone, away from the tip
- D) Proximal to cells of meristematic zone, towards the tip
- 16. Increased vacuolation is a characteristics of (Pg. 242, E)
 - A) Meristematic phase
 - B) Maturation phase
 - C) Elongation phase
 - D) All of these
- 17. Thickest cell wall present in (Pg. 242, E)
 - A) Meristematic phase
 - B) Maturation phase
 - C) Elongation phase
 - D) Both B & C

Paragraph 15.1.4 Growth rates

18. Increased growth per unit time is called

(Pg. 242, E)

- A) Growth index
- B) Growth rate
- C) Growth efficiency index
- D) Both A & C
- 19. Identify the given figure (Pg. 242, M)



- A) Figure shows geometric growth with formula $L_t = L_o + rt$
- B) Figure shows geometric growth with formula W_1 = $W_o e^{rt}$
- C) Figure shows arithematic growth with formula L_{t} = L_{o} + rt
- D) Figure shows arithematic growth with formula W_1 = $W_{\rm o}~e^{rt}$

20. Identify the given figures (Pg. 242, M)



- A) Figure shows geometric growth with formula $L_t = L_o + rt$
- B) Figure shows geometric growth with formula W_1 = $W_o e^{rt}$
- C) Figure shows arithematic growth with formula $L_t = L_o + rt$
- D) Figure shows arithematic growth with formula W_1 = $W_{\rm o}~e^{\rm rt}$
- Choose the correct option with respect to given figures of stages of embryo development (Pg. 242, M)



—(iii)

- A) (i) is arithmetic growth phase
- B) (i) is geometric growth phase
- C) (ii) is arithmetic growth phase
- D) (ii) is geometric growth phase
- 22. Choose the correct set of option for size or weight of organ against time (**Pg. 243, E**)
 - (i) $W_1 = W_0 e^{rt}$
 - (ii) $L_t = L_o + rt$
 - (iii) Linear growth curve
 - (iv) Sigmoid growth curve
 - (v) Arithmetic growth
 - (vi) Geometric growth
 - A) (i), (iii), (iv) B) (ii), (iii), (vi)
 - C) (i), (iv), (vi) D) (ii), (iv), (v)
- 23. The three phases of sigmoid growth occur in order are (Pg. 243, E)
 - A) Log, lag, stationary
 - B) Log, stationary, lag
 - C) Lag, log, stationary
 - D) Lag, stationary, log

24. In the formula $W_1 = W_o e^{rt}$, r is –

(Pg. 243, E)

- A) Relative growth rate
- B) Efficiency index
- C) Ability of plant to produce new plant material
- D) All of these
- 25. choose the correct option (Pg. 244, E)



- A) Absolute growth rate of A is more than that of B
- B) Absolute growth rate of B is more than that of A
- C) Relative growth rate of A is more than that of B
- D) Relative growth rate of B is more than that of A

Paragraph 15.1.5 Conditions growth

26. The factors affecting growth can be –

(Pg. 244, E)

- A) Water, temperature, light, gravity
- B) Water, temperature, light but not gravity
- C) Water, light but not temperature & gravity
- D) Water, light, gravity but not temperature

Paragraph 15.2 Differentiation, Dedifferentiation and Redifferentiation

- 27. During differentiation (Pg. 245, E)
 - A) Structural changes occur in nucleus and cytoplasm
 - B) Functional changes occur in nucleus and cytoplasm

- C) Structural changes occur in cell wall and protoplasm
- D) All of these
- 28. Dedifferentiation can be seen in formation of- (Pg. 245, E)
 - A) Intrafascicular parenchyma
 - B) Intrafascicular cambium only
 - C) Interfascicular cambium only
 - D) Entire vascular cambium
- 29. Read the following statements -

(Pg. 245, E)

- (i) Cork cambium is a layer of meristem formed from parenchyma cells
- (ii) Intrafascicular cambium is a layer of parenchyma cells formed from meristem
- (iii) Vascular cambium divide and produce cells that differentiate again
- (iv) Plant growth can be determinate or indeterminate
- (v) Final structure of cells are never determined by location of cells
- (vi) The differentiation in plant cells are closed and dependent on position

How many of the above statements are correct?

A)	3	B) 4
C)	5	D) 6

Paragraph 15.3 Development

30. identify the correct labels - (Pg. 246, E)



- A) (i)-Expansion, (ii)-Plasmatic growth, (iii)-Maturation
- B) (ii)-Elongation, (i)-Plasmatic growth, (iii)-Maturation
- C) (iii)- Elongation, (ii)-Plasmatic growth, (i)-Maturation
- D) (iii)-Expansion, (i)-Plasmatic growth, (ii)-Maturation
- 31. Plasticity can be seen in (Pg. 246, E)
 - A) Cotton B) Coriander
 - C) Buttercup D) All of these

- 32. Environmental heterophylly can be seen in
 - (Pg. 246, E)
 A) Larkspur B) Cotton
 - C) Coriander D) Buttercup
- 33. The given figure show (Pg. 246, E)



- A) Developmental heterophylly in buttercups
- B) Environmental heterophylly in larkspur
- C) Environmental heterophylly in buttercup
- D) Developmental heterophylly in Larkspur

34. The figure shows sequence of the development process in (Pg. 246, E)



A) A plant cell B) Plant tissue

D) All of these

in

35. The given figure show – (Pg. 246, E)

C) Plant organs



- A) Developmental heterophylly buttercups
- B) Environmental heterophylly in larkspur
- C) Environmental heterophylly in buttercup
- D) Developmental heterophylly in larkspur

- 36. Intrinsic factors responsible for growth & development include (Pg. 246, E)
 - A) Intracellular (plant growth regulators)
 - B) Intercellular (genetic)
 - C) Intercellular (plant growth regulators)
 - D) More than one option is correct

Paragraph15.4PlantGrowthRegulationParagraph15.4.1Characteristics

37.	PGRs are –	(Pg. 247, E)
	A) Small, simple,	molecules of divers
	chemical compo	osition
	B) Large, simple	molecules of divers
	chemical compo	osition
	C) Small, complex	molecules of divers
	chemical compo	osition
	D) Large, complex	molecules of divers
	chemical compo	osition
38.	An example of ader	nine derivative PGR
		(Pg. 247, E)
	A) IAA	B) Kinetin
	C) ABA	D) Gibberellic acid
39.	Gibberellic acid is -	- (Pg. 247, E)
	A) Indole compoun	d
	B) Adenine compo	and
	C) Carotenoid deriv	vative
	D) Terpene derivat	ive
40.	Abscisic acid is –	(Pg. 247, E)
	A) Indole compoun	ıd
	B) Adenine compo	and
	C) Carotenoid deriv	vative
	D) Terpene derivat	ive
41.	Kinetin is –	(Pg. 247, E)
	A) Indole compoun	ıd
	B) Adenine compo	und
	C) Carotenoid deriv	vative
	D) Terpene derivat	ive
42.	A gaseous PGR is	(Pg. 247, E)
	A) ABA	B) Ethylene
	C) GA ₃	D) IAA
43.	The PGRs that play	important role in plan
	responses to wound	ls are - (Pg. 247, E)
	A) Auxin	B) Cytokinin
	C) Gibberellin	D) Abscisic acid
44.	PGR Ethvlene can f	at into - (Pg. 247, E)

- A) Group of plant growth promoters
- B) Group of plant growth inhibitors
- C) Both the groups of promoter & inhibitors but mostly inhibitor
- D) Both the groups of promoter and inhibitors but mostly promoter

Paragraph 15.4.2 The Discovery of PGR

- 45. Discovery of how many out of 5 major PGRs was accidental? (Pg. 247, E)
 A) 2
 B) 1
 C) 3
 D) 5
- 46. Match the scientist with the plant they worked on (Pg. 248, M)

	Column I		Column II
а	F.W.Went	i	Canary grass
b	E. Kurosawa	ii	Avena(oat)
с	Charles &	iii	Tobacco
	Francis Darwin		
d	F.S koog	iv	Rice

A) a-iv, b-ii, c-iii, d-i

- B) a-iii, b-i, c-ii, d-iv
- C) a-ii, b-iv, c-i, d-iii
- D) a-i, b-iii, c-iv, d-ii
- 47. Cousins confirmed the release of a volatile substance _(i)_, from ripened _(ii)_ that hastened the ripening of stored unripe _(iii)_. (Pg. 247, E)
 A) (i)-ABA, (ii)-banana, (iii)-orange
 - A) (I)-ADA, (II)-ballalla, (III)-blallge
 - B) (i)-ABA, (ii)-orange, (iii)-banana
 - C) (i)- C_2H_4 , (ii)-banana, (iii)-orange
 - D) (i)- C_2H_4 , (ii)- orange, (iii)-banana
- 48. Match the PGR with the plants which played role in their discovery –

(Pg.	247,	M)

	Column I		Column II
а	Auxin	i	Tobacco
b	Gibberellin	ii	Rice
с	Cytokinin	iii	Orange
d	Ethylene	iv	Avena

A) a-iii, b-i, c-ii, d-iv

B) a-iv, b-ii, c-i, d-iii

	C) a-	-1, b-111, c-1v,	d-11			
	D) a-	-ii, b-iv, c-iii	, d-i			
49.	Absc	isic acid wa	s independ	lent dis	scover	red
	by th	ree differen	t research	ers and	l nan	ned
	as –			(Pg. 2	47. E	C)
	A) Ir	hibitor-A.a	hscission-l	II. dorr	nin	,
	B) Ir	hibitor-C a	hscission-	II dorn	nane	
	C Ir	hibitor B	baciasion	II, dorn	nin	
		hibitor D			1111	
50	D) II.		DSCISSIOII-	1, 00111	lane	
50.	Ine t	erm kinetin	was given	by –		
				(Pg. 2	48, E	<u>(</u> ک
	A) M	uller et al	B) Ki	irosawa	a et a	1
	C) C	ousins et al	D) No	one of t	hese	
51.	The	foolish see	dling dise	ase of	rice	is
	caus	ed by –		(Pg. 2	48, E	C)
	A) N	ematode	B) Ba	acteria		
	C) F	ungus	D) Vi	rus		
52.	Auxi	n was isolate	ed by _(i)_ i	from _(i	ii)_	
				(Pg. 2	48, E	C)
		(i)	(ii)			
	А	Francis	Wleoptile of	of oat		_
		Darwin	seedling			
	В	Francis	Cleoptile o	f canary	7	
		Darwin	grass			
	С	F.W. Went	Cleoptile o	of oat		
			seedling			
	D	F.W. Went	Cleoptile o	f canary	7	
			orass	-		
			51 400			
53	The f	joure shows	_	(Pg 2	48 F	(5
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			**		.∓	
				//		
				/		
				/		
		a	b c	d		
	A) E	xperiment	to show	that	tip	of
	С	oleoptile pro	duces gibb	erelin		
	B) E	xperiment	to show	that	tip	of
	C	oleorhiza pro	oduces gibl	berelin	-	
	C) E	xperiment	to show	that	tip	of
	,	oleorhiza pro	oduces aux	in	T.	
	D) E	xperiment	to show	that	tin	of
	,, с	leoptile pro	duces auxi	in	-12	<u>.</u>
De -			5 1			

Paragraph 15.4.3.1 <u>Auxin</u>

54. Auxin was first isolated from -(Pg. 248, E) A) Xylem sap B) Phloem sap C) Human urine D) Root exudates 55. Synthetic auxins -(Pg. 248, E) A) IAA B) IBA C) NAA D) Both A & C 56. Auxin isolated from plant - (Pg. 248, E) A) NAA B) IAA C) 2, 4-D D) Both A & B 57. Auxins are generally produced by – (Pg. 248, E) A) Growing apex of root & shoot B) Epidermal tissue of shoots only C) Xylem secondary cells D) Endodermal cells of roots & shoot 58. Assertion: Auxin is used in plant propagation widely. Reason: Auxin initiate rooting. Choose the correct option - (Pg. 248, M) A) Both Assertion and Reason are correct, and Reason is correct explanation of Assertion B) Both Assertion and Reason are correct, but Reason doesn't explain Assertion C) Assertion is correct but Reason is wrong D) Both Assertion and Reason are incorrect 59. Auxin promote -(Pg. 248, E) A) Rooting in stem cutting B) Flowering in pineapple C) Bolting in beet D) Both A & B 60. Statement-I Auxin prevent fruit and leaf drop at early stage Statement-II Auxin promote abscission of older mature leaves & fruits Choose the appropriate option – (Pg. 248, M) A) Statement-I is correct and Statement-II is incorrect B) Statement-I is incorrect and Statement-II is correct C) Both Statement-I & Statement-II are correct D) Both Statement-I & Statement-II are

incorrect

61.	Auxin – (Pg. 248, E)
	A) Promotes apical dominance
	B) Prevent apical dominance
	C) Both promote & prevent apical
	dominance based on condition
	D) Can't say
62.	In tea plantation and hedge -making
	(Pg. 248, E)
	A) Lateral buds are removed
	B) Shoot tips are removed
	C) Root tips are removed
	D) None of these
63.	Auxin – (Pg. 248, E)
	A) Induces parthenocarpy
	B) Act as herbicide
	C) Help in cell division
	D) All of these
64.	2, 4-D is used to – (Pg. 248, E)
	A) Kill gymnosperms usually
	B) Kill dicot usually
	C) Kill monocot usually
	D) Both A & B
Par	agraph 15.4.3.2
Gih	herellins
<u>Gib</u>	<u>berellins</u>
<u>Gib</u>	berellins are (Pg. 249, E)
<u>Gib</u> 65.	berellins Gibberellins are (Pg. 249, E) A) Promotory PGR
<u>Gib</u> 65.	berellins Gibberellins are (Pg. 249, E) A) Promotory PGR B) Inhibitory PGR
<u>Gib</u> 65.	berellins Gibberellins are (Pg. 249, E) A) Promotory PGR B) Inhibitory PGR C) Neither promotory nor inhibitory PGR
<u>Gib</u> 65.	berellinsGibberellins are(Pg. 249, E)A) Promotory PGRB) Inhibitory PGRC) Neither promotory nor inhibitory PGRD) Both promotory and inhibitory PGR
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<u>Gib</u> 65. 66.	berellinsGibberellins are(Pg. 249, E)A) Promotory PGRB) Inhibitory PGRC) Neither promotory nor inhibitory PGRD) Both promotory and inhibitory PGRWhich of the following statements areincorrect –(Pg. 249, E)
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Gib 65. 66.	berellins Gibberellins are (Pg. 249, E) A) Promotory PGR B) Inhibitory PGR C) Neither promotory nor inhibitory PGR D) Both promotory and inhibitory PGR Which of the following statements are incorrect – (Pg. 249, E) A) There are more than 100 gibberellins reported B) GA ₃ was one of the gibberellins to be discovered C) All GA are basic D) GAs are also reported in fungi Gibberellins is used in grapes for – (Pg. 249, E)
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Gib 65. 66.	berellins Gibberellins are (Pg. 249, E) A) Promotory PGR B) Inhibitory PGR C) Neither promotory nor inhibitory PGR D) Both promotory and inhibitory PGR Which of the following statements are incorrect – (Pg. 249, E) A) There are more than 100 gibberellins reported B) GA ₃ was one of the gibberellins to be discovered C) All GA are basic D) GAs are also reported in fungi Gibberellins is used in grapes for – (Pg. 249, E) A) Increase in length of stalk B) Increase in girth of stalk
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	C) Neither promote not delay senescence
	D) Both promote & delay senescence
	based on situation
69.	Assertion: Spraying gibberellins on fruits
	extend its market period
	Reason: Gibberellins delays senescence
	Choose the best option $-(Pg 249 M)$
	A) Both assertion & reason are correct
	and reason is correct explanation of
	and reason is correct explanation of
	B) Both assertion & reason are correct but
	reason is not explanation of assertion
	C) Assertion is correct but reason is wrong
	D) Both assertion & reason are in correct
70.	Which of these are correct – (Pg. 249, E)
	A) ABA shows the malting process in
	brewing industry
	B) ABA speeds the malting process in
	brewing industry
	C) GA ₃ slows the malting process in
	brewing industry
	D) GA_3 speeds the malting process in
	brewing industry
71.	Gibberellins is used to improve vields of –
	(Pg. 249, E)
	A) Apple B) Grape
	C) Sugarcane D) All of these
72.	Assertion: Juvenile conifers are spraved
	with GA
	Reason: GA delays senescence and
	malting period
	Which of the given options are correct?
	(Pg. 249, E)
	A) Both assertion & reason are correct
	and reason is correct evaluation of
	assertion
	B) Both assertion & reason are correct but
	reason is not evaluation of assertion
	C) Assertion is correct but reason is wrong
	D) Both assertion & reason are in correct
72	Bolting is
13.	$\begin{array}{llllllllllllllllllllllllllllllllllll$
	D) Node elementics price to flowering to
	 Noue elongation prior to llowering () Forther motivation and and the statistics
	C) Early maturing and seed production
<u> </u>	D) None of these
74.	GA promote bolting in – (Pg. 249, E)
	A) Beet
	B) Cabbage

- C) Plants with rosetle habit
- D) All of these

Paragraph 15.4.3.3 Cytokinins

75.	Cytokinins were discovered as - (Pg. 249,
	A) Kinin B) Kinetin
70	C) Kinesin D) Zentin
70.	A) During graning
	 A) Fullifie – gualifie B) Durimiding – gutesing
	C) Purine $-$ odenine
	D) $Pyrimidine = thymine$
77	Kinetin was discovered from – (Pg. 249, E)
	A) Autoclaved herring egg DNA
	B) Human urine
	C) Corn kernel
	D) None of these
78.	Read the following statements regarding
	cytokinin – (Pg. 249, E)
	i) Kinetin occurs naturally in plants
	ii) Kinetin was discovered from coconut
	milk
	iii) Zeatin does not occur naturally in
	plants
	iv) Zeatin was isolated from human DNA
	–
	A) 1 B) 2
	C) 3 D) 4
79.	Natural cytokinin may be synthesized in –
	(Pg. 249, E)
	A) Root apex
	B) Developing shoot buds
	C) Young fruits
	D) More than one option is correct
80.	Cytokinin helps to produce – (Pg. 249, E)
	A) Chloroplast in leaves
	B) Elongation in sugarcane
	C) Synchronized fruit set in pineapple
~	D) Flowering in pineapple
Pai	agraph 15.4.3.4
Eth	nylene

81. Ethylene is synthesized in large amounts by – (Pg. 250, E)

- A) ripening fruit
- B) Tissues undergoing senescence
- C) Newly developed leaves
- D) More than one option is correct
- 82. Ethylene causes _(i)_ growth of seedling, swelling of axis and apical hook formation in _(ii)_ seedling (Pg. 250, E)

I_(II)_ Seeuning						
	(i)	(ii)				
A)	Horizontal	Monocot				
B)	Vertical	Dicot				
C)	Horizontal	Dicot				
D)	Vertical	Monocot				

- 83. Ethylene promotes (Pg. 250, E)
 - A) Senescence and abscission of flowers
 - B) Senescence but not abscission of flowers
 - C) Abscission of flowers but not senescence
 - D) Neither senescence nor abscission of flowers
- 84. Ethylene in fruits causes (Pg. 250, E)
 - A) Rise in rate of respiration called respiratory anti-climactic
 - B) Rise in rate of respiration called respiratory climactic
 - C) Fall in rate of respiration called respiratory anti-climactic
 - D) Fall in rate of respiration called respiratory climactic
- 85. Ethylene -

- (Pg. 250, E)
- A) Promotes seed and bud dormancy
- B) Promotes only seed dormancy
- C) Promotes only bud dormancy
- D) None of these
- 86. Statement-I Ethylene promotes internode/petiole elongation in deep water rice plants

Statement-II ethylene helps upper part of shoot to remain above water.

Choose the appropriate option –

(Pg. 250, E)

- A) Statement-I is correct and Statement-II is incorrect
- B) Statement-I is incorrect and Statement-II is correct

- C) Statement-I and Statement-II are correct
- D) Statement-I and Statement-II are incorrect
- 87. Ethylene -(Pg. 250, E)
 - A) Promotes root hair formation and increase in absorption surface
 - B) Demotes root hair formation and increase in absorption surface
 - C) Promotes root hair formation and decrease in absorption surface
 - D) Demotes root hair formation and decrease in absorption surface
- 88. Ethylene initiates -(Pg. 250, E)
 - A) Flowering in pineapple
 - B) Flowering in mango
 - C) Synchronizing fruit-set in pineapple
 - D) All of these
- 89. Most widely used source of ethylene -

- A) Is ethepene
- B) Hasters fruit ripening in tomato and apple
- C) In aqueous solution is absorbed on the plant roots
- D) More than one option is correct
- 90. Ethylene promotes -(Pg. 250, E)
 - A) Female cucumber, flowers in increasing the yield
 - B) Female flowers in cucumber. decreasing the yield
 - C) male flowers in cucumber, increasing the yield
 - D) male flowers in cucumber, decreasing the yield

Paragraph 15.4.3.5 **Abscisic Acid**

- 91. ABA is (Pg. 250, E)
 - A) Inhibitor of plant growth and metabolism
 - B) Inhibitor of plant growth but not metabolism
 - C) Inhibitor of plant metabolism but not growth
 - D) Inhibitor of neither plant growth nor metabolism

- 92. ABA -
 - A) Inhibit seed germination
 - B) Promote seed dormancy
 - C) Inhibit seed dormancy
 - D) Both A & B \setminus
- 93. ABA is called stress hormone because
 - (Pg. 250, E)

(Pg. 250, E)

- A) It causes stress to plant
- B) It is released during stress in plant
- C) It helps plant to fight stress conditions
- D) More than one option is correct
- 94. ABA stimulates -(Pg. 251, E)
 - A) Stomata opening more CO₂ for exchange
 - closure B) Stomata to decrease transpiration
 - C) Stomata opening to cause transpiration & calling effect
 - D) Both A & C

95. In most situation, ABA acts as an antagonist to-(Pg. 251, E) A) Auxin

- B) GA
- C) Cytokinin D) Ethylene

Paragraph 15.5 Photoperiodism

96. Identify the correct labels - (Pg. 251, E)



(i)		(ii)	(111)	
		(i)	(ii)	(iii)	
	A)	Long day	Day	Short	
		plant	neutral	day	
			plant	plant	

B)	Short day	Day	Long day	
	plant	neutral	plant	
		plant		
C)	Long day	Short day	Day	
	plant	plant	neutral	
			plant	
D)	Short day	Long day	Day	
	plant	plant	neutral	
			plant	

- 97. Read the given statements (Pg. 251, E) Statement-I Some plants require a periodic exposure to light to include flowering Statement-II Some plants are able to measure the duration of exposure to light Choose the correct statements –
 - A) Both statements are correct and are about photoperiodism
 - B) One of the statements is correct about photoperiodism
 - C) Both statements are correct and is about vernalization
 - D) One of the statements is correct about vernalization
- 98. For day neutral plants, there is

(Pg. 252, E)

- A) No correlation between light duration and flowering
- B) Direct correlation between light duration and flowering
- C) Indirect correlation between light duration and flowering
- D) Direct correlation between light intensity and flowering

99. In photoperiodism – (Pg. 252, E)

- A) Duration of light period matters only
- B) Duration of dark period matters only
- C) Duration of light and dark period matters
- D) Duration of light or dark period doesn't matter
- 100. Photoperiods are perceived by -

(Pg. 252, E)

- A) Shoot apices
- B) Flowering apices
- C) Nodal buds

D) Leaves

Paragraph 15.6 Vernalization

- 101. Vernalization is (Pg. 252, E)
 - A) Quantitative dependence of flowering on low temperature
 - B) Qualitative dependence of flowering on low temperature
 - C) Quantitative dependence of flowering on high temperature
 - D) A and B are correct
- 102. Vernalization can be seen in -(Pg. 252, E)
 - A) Spring varieties of rice
 - B) Spring varieties of wheat
 - C) Winter varieties of rice
 - D) Winter varieties of wheat
- 103. Vernalization is also seen in (Pg. 252, E)
 - A) Biennials like sugarbeet
 - B) Biennials like maize
 - C) Perennials like sugarbeet
 - D) Perennials like maize

Paragraph 15.7

Seed Dormancy

104. Some seeds which do not germinate even when external conditions are favorable, are understood to be going through –

(Pg. 252, E)

- A) Dormancy controlled by external environment
- B) Dormancy controlled endogenously
- C) Dormancy controlled by conditions within the seed
- D) More than one option is correct
- 105. Chemical inhibitions of germination are -

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(Pg. 252, E)
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- A) Abscisic acid
- B) Phenolic acid
- C) Para-ascorbic acid
- D) All of these
- 106. Germination may not occur due to -

(Pg. 252, E)

- i) Hard seed coat
- ii) Immature embryo
- iii) Chemical inhibitors
- iv) Harsh environment
- How many of above are correct?

A) 1	B) 2
C) 4	D) 3

107. Seed coat dormancy is broken by -

(Pg. 252, E)

- A) Mechanical abrasions
- B) Microbial actions in gut of animals
- C) Certain chemicals

D) More than one option is correct

108. Effects of inhibitory substances on dormancy is removed by application of certain chemicals are -(Pg. 253, E) A) Auxin B) Gibberellic acid

- C) Cytokinin D) ABA

ANSWER KEY: PLANT GROWTH AND DEVELOPMENT

Q	1	2	3	4	5	6	7	8	9	10
Ans	С	D	C	D	А	А	А	В	А	В
Q	11	12	13	14	15	16	17	18	19	20
Ans	D	А	С	D	В	С	В	В	C	В
Q	21	22	23	24	25	26	27	28	29	30
Ans	D	C	C	D	С	А	C	C	А	В
Q	31	32	33	34	35	36	37	38	39	40
Ans	D	В	D	А	А	D	Α	В	D	C
Q	41	42	43	44	45	46	47	48	49	50
Ans	В	В	D	C	D	С	D	В	C	D
Q	51	52	53	54	55	56	57	58	59	60
Ans	С	D	D	С	D	В	А	В	D	С
Q	61	62	63	64	65	66	67	68	69	70
Ans	А	В	D	В	А	C	A	В	В	D
Q	71	72	73	74	75	76	77	78	79	80
Ans	С	С	D	D	В	С	D	D	D	А
Q	81	82	83	84	85	86	87	88	89	90
Ans	D	С	А	В	D	С	А	D	A	А
Q	91	92	93	94	95	96	97	98	99	100
Ans	А	D	D	В	В	С	Α	Α	C	D
Q	101	102	103	104	105	106	107	108		
Ans	D	D	А	D	D	С	D	В		