



GROWTH AND DEVELOPMENT

1. **The progressive changes which are undergone before an organism acquires its adult form constitute:**
(A) Metamorphosis (B) Embryonic development
(C) Growth (D) Development
2. **Meristems found at the tips of root and shoot are called:**
(A) Intercalary (B) Lateral
(C) Apical (D) None of them
3. **During cell division the number of cells increase by:**
(A) Elongation (B) Meiosis
(C) Mitosis (D) Maturation
4. **During elongation the cell volume increases upto 150 times due to uptake of:**
(A) Food (B) Minerals
(C) Water (D) Air
5. **The light which favours elongation of cells is:**
(A) Red (B) White
(C) Blue (D) Ultraviolet
6. **Metabolic activity and growth cannot take place in absence of:**
(A) High temperature (B) Light
(C) CO₂ (D) Oxygen
7. **what causes apical dominance by diffusing from the apical bud which inhibits the growth of lateral buds?**
(A) Food (B) Minerals
(C) Water (D) Auxin

8. A series of mitotic divisions which take place in a zygote are called:
- (A) Fertilization (B) Growth
(C) Gastrulation (D) Cleavage
9. At the cephalic end of primitive streak, closely packed cells form a local thickening known as:
- (A) Splanchnic mesoderm (B) Somatic mesoderm
(C) Hensen's node (D) Gastrocoele
10. The cavity formed between somatic and splanchnic mesoderm is:
- (A) Gastrocoele (B) Neurocoel
(C) Coelom (D) Primitive streak
11. In 24 hours embryo, the folding of neural plate is clearly visible in:
- (A) Neurula (B) Gastrula
(C) Blastula (D) Morulla
12. Zygote of which animal Spemann divided into two equal halves with the help of minute ligature of human hair?
- (A) Salamander (B) Frog
(C) Fish (D) Sheep
13. During gastrulation epiblast and hypoblast are two layers of:
- (A) Blastoderm (B) Gastrula
(C) Neurula (D) Morulla
14. Larval epidermis is produced by:
- (A) Yellow cytoplasm (B) Gray equatorial cytoplasm
(C) Clear cytoplasm (D) Gray vegetal cytoplasm
15. The size of *Acetabularia* may be upto several centimeters, though it has:
- (A) Many nuclei (B) No nucleus
(C) Two nuclei (D) One nucleus
16. This alga has a long stalk with an umbrella shaped cap at its top and rhizoids, attached to the ground:
- (A) *Acetabularia* (B) *Spirogyra*
(C) *Euglena* (D) *Chlamydomonas*

17. **The scientist who worked on Acetabularia is:**
(A) Spemann (B) Hans Dietrich
(C) Haemmerling (D) Thimann
18. **In 18 hours embryo, it is the most prominent structure:**
(A) Neurocoel (B) Notochord
(C) Hensen's node (D) Primitive streak
19. **from how many celled embryo did Spemann observed that, if a single cell is separated, it contains a complete set of genes and forms a complete embryo?**
(A) 8 (B) 12
(C) 20 (D) 16
20. **When a piece of ectoderm was removed from Frog's embryo, it was unable to form normal:**
(A) Digestive system (B) Circulatory system
(C) Reproductive system (D) Nervous system
21. **The human life span is judged to be maximum of:**
(A) 150 years (B) 60 years
(C) 90 years (D) 120-125 years
22. **In microcephaly, the individuals are born with small:**
(A) Skull (B) Ulna
(C) Humerus (D) Radius
23. **The negative physiological changes in our body are called:**
(A) Abnormalities (B) Regeneration
(C) Growth (D) Degeneration
24. **This is the condition in which one of the sex chromosome is missing:**
(A) Klinefelter's syndrome (B) Turner's syndrome
(C) Trisomy (D) Mutation
25. **Primary growth:**
(A) Optimum temperature for growth (B) Secondary growth
(C) Photoperiodism (D) Apical meristems

26. **Cambium:**
- (A) Apical meristems (B) Photoperiodism
(C) Secondary growth (D) Optimum temperature for growth
27. **Increase in cell volume:**
- (A) Due to uptake of water (B) Photoperiodism
(C) Secondary growth (D) Apical meristems
28. **25-30°C:**
- (A) Optimum temperature for growth (B) Secondary growth
(C) Apical meristems (D) Photoperiodism
29. **Organogenesis:**
- (A) Body organs formed, cells interact and differentiate
(B) Translucent appearance in blastoderm
(C) Blastocoele formed
(D) Folding of neural plate visible
30. **Blastula:**
- (A) Folding of neural plate visible
(B) Translucent appearance in blastoderm
(C) Body organs formed, cells interact and differentiate
(D) Blastocoele formed
31. **Area pellucida:**
- (A) Body organs formed, cells interact and differentiate
(B) Translucent appearance in blastoderm
(C) Blastocoele formed
(D) Folding of neural plate visible
32. **Neurula:**
- (A) Body organs formed, cells interact and differentiate
(B) Blastocoele formed
(C) Folding of neural plate visible
(D) Translucent appearance in blastoderm

33. Thimann and Skoog:

- (A) 22nd day (B) Apical dominance
(C) 21st day (D) Gives to muscle cells

34. Chick hatches:

- (A) 21st day (B) 17th day
(C) Gives to muscle cells (D) 22nd day

35. Yellow cytoplasm:

- (A) Apical dominance (B) Gives to muscle cells
(C) 21st day
(D) Control the functioning of a specific cell type

36. Determinants:

- (A) 21st day
(B) Apical dominance
(C) 22nd day
(D) Control the functioning of a specific cell type

37. Regeneration:

- (A) (XXY) (B) Microcephaly
(C) Due to aging (D) None of these

38. Arthritis and arteriosclerosis:

- (A) Microcephaly
(B) Due to aging
(C) Ability to regain or recover the lost or injured part
(D) None of the above

39. Klinefelter's syndrome:

- (A) (XXY) (B) Microcephaly
(C) Due to aging (D) (XO)

40. Turner's syndrome:

- (A) (XO)
(B) Ability to regain or recover the lost or injured part
(C) XXY
(D) Due to aging

41. Which of the followings is irrelevant for growth and development?
(A) Cell division (B) Cell elongation
(C) Differentiation (D) All of the above
42. The cells which have ability to divide are:
(A) Parenchyma (B) Meristem
(C) Collenchyma (D) Leaf cells
43. Match cambium with one the followings:
(A) Apical meristem (B) Lateral meristem
(C) Intercalary meristem (D) All of the above
44. The meristem present at the tip of roots is:
(A) Apical meristem (B) Intercalary meristem
(C) Lateral meristem (D) All of the above
45. The meristem present at the base of internodes is:
(A) Apical meristem (B) Lateral meristem
(C) Intercalary meristem (D) All of the above
46. The growth of flowers is:
(A) Indeterminate (B) Determinate
(C) Automatic (D) Controlled
47. The growth of root is:
(A) Indeterminate (B) Secondary growth
(C) Primary growth (D) Determinate
48. The growth, in which length of plant increases, is:
(A) Indeterminate (B) Determinate
(C) Primary growth (D) Secondary growth
49. The growth, in which width of plant increases, is:
(A) Indeterminate (B) Secondary growth
(C) Primary growth (D) Determinate
50. The formation of cells of pith, cortex and vascular bundle is:
(A) Cell elongation (B) Cell division
(C) Maturation (D) Cell division

51. The zone present at a little distance from the apex is:
(A) Cell elongation (B) Differentiation
(C) Maturation (D) Cell division
52. Which of the followings is external factor in growth?
(A) Hormone (B) Nutrition
(C) Temperature (D) Water
53. The internal factor for growth is:
(A) Light (B) Oxygen
(C) Vitamins (D) Carbon dioxide
54. If plants are grown in dark, it faces the deficiency of:
(A) Water (B) Nutrients
(C) Hormones (D) Vitamins
55. Which of the following factors supply energy during growth?
(A) Hormones (B) Water
(C) Vitamins (D) Nutrients
56. The leaf primordial cells form which of the following organ?
(A) Leaves (B) Shoot
(C) Leaves and shoot (D) None of the above
57. The cambium is formed in:
(A) Stage 1 (B) Stage 2
(C) Stage 3 (D) Stage 4
58. Xylem and phloem are formed in:
(A) Stage 1 (B) Stage 5
(C) Stage 4 (D) Stage 6
59. Which of the following hormones produces inhibitory effect in apical dominance?
(A) Gibberellins (B) Auxins
(C) Cytokinins (D) Absciscic acid
60. The hormone which releases inhibitory effect is:
(A) Gibberellins (B) Cytokinins
(C) Absciscic acid (D) Auxins

61. Match growth correlations with one of the following:
(A) Apical dominance (B) Inhibitory effects
(C) Compensatory effects (D) All of the above
62. The phenomenon which inhibits the sprouting of lateral bud is:
(A) Apical dominance (B) Inhibitory effects
(C) Compensatory effects (D) None of the above
63. The rounded closely packed mass of blastomere is:
(A) Blastula (B) Morulla
(C) Gastrula (D) Embryo
64. The layers of blastula are:
(A) Ectoderm (B) Mesoderm
(C) Blastoderm (D) Endoderm
65. The stage of embryo with segmented cavity is called:
(A) Blastula (B) Morulla
(C) Gastrula (D) Embryo
66. The presumptive endoderm is:
(A) Epiblast (B) Hypoblast
(C) Blastoderm (D) None of the above
67. The peripheral part of blastoderm is called:
(A) Area pellucida (B) Area opaca
(C) Area of cell division (D) None of the above
68. The upper area with translucent appearance is:
(A) Area pellucida (B) Area opaca
(C) Area of cell division (D) None of the above
69. The mesodermal cells migrate medially and caudally to form:
(A) Hensen's node (B) Primitive gut
(C) Primitive streak (D) Somites
70. The primitive groove is marked on both sides of the embryo by:
(A) Henson's node (B) Primitive ridges
(C) Primitive streak (D) Primitive gut

71. **Closely packed cells at cephalic end of primitive streak form a local thickening called:**
(A) Primitive gut (B) Hensen's node
(C) Primitive streak (D) Somites
72. **Which of the followings form body muscles?**
(A) Hensen's node (B) Primitive gut
(C) Somites (D) Primitive streak
73. **During the development of chick, somites are formed after:**
(A) 20 – 25 hours (B) 25 – 26 hours
(C) 26 – 27 hours (D) 28 – 29 hours
74. **The cavity formed between somatic and splanchnic mesoderm is:**
(A) Blastocoel (B) Primitive cavity
(C) Coelom (D) Neurocoel
75. **In the chick of 18 hour, the structure formed is:**
(A) Neural plate (B) Neural groove
(C) Neural fold (D) Neural tube
76. **Neural groove is formed after:**
(A) 19 – 20 hours (B) 21 – 22 hours
(C) 23 – 24 hours (D) 24 – 25 hours
77. **The scientist who worked on sea urchin embryo was:**
(A) Spemann (B) Dietrich
(C) Duetrochet (D) Lyn
78. **The pigment free area of egg is called:**
(A) Animal hemisphere (B) Vegetal hemisphere
(C) Gray crescent (D) All of the above
79. **The larval epidermis is formed from:**
(A) Clear cytoplasm (B) Yellow cytoplasm
(C) Grey vegetal (D) Grey equatorial
80. **The part of cytoplasm which form notochord is:**
(A) Clear cytoplasm (B) Yellow cytoplasm
(C) Grey vegetal (D) Grey equatorial

81. **Experiments on Acetabulum were performed by:**
(A) Spemann (B) Dietrich
(C) Haemmerling (D) Lyn
82. **Selection of genes is done by:**
(A) Nucleus (B) Chromosome
(C) Cytoplasm (D) Ribosomes
83. **Haemmerling performed experiments on:**
(A) Yeast (B) Salamander
(C) Acetabularia (D) Sea urchin
84. **Spemann performed experiments on:**
(A) Salamander (B) Sea urchin
(C) Frog (D) Acetabularia
85. **The biologists performed experiments on induction:**
(A) Spemann (B) Mangold
(C) Both (D) None
86. **The primary organizer is:**
(A) Ventral lip of blastopore (B) Dorsal lip of blastopore
(C) Lateral lip of blastopore (D) None of the above
87. **The negative physiological changes in the body are:**
(A) Induction (B) Aging
(C) Syndrome (D) None of the above
88. **The study of aging is called:**
(A) Physiology (B) Morphology
(C) Gerontology (D) Herpetology
89. **Which of the followings can slow down the process of aging?**
(A) Smoking (B) Over diet
(C) Exercise (D) Sleep
90. **Which of the followings possesses the greatest power of regeneration?**
(A) Reptiles (B) Amphibians
(C) Man (D) Sponges

91. **Lobster can regenerate only:**
(A) Mouth (B) Legs
(C) Claw (D) Wings
92. **Earth worm can regenerate:**
(A) Skin (B) Tail
(C) Setae (D) Head
93. **Salamander can regenerate:**
(A) Head (B) Limbs
(C) Tail (D) Skin
94. **Lizard can regenerate:**
(A) Head (B) Limbs
(C) Tail (D) Skin
95. **Man can regenerate:**
(A) Skin (B) Limbs
(C) Tail (D) Head
96. **Regeneration in plant is confined to:**
(A) Roots (B) Stems
(C) Leaves (D) All of the above
97. **Regeneration by dedifferentiated cells takes place in:**
(A) Prawn (B) Salamander
(C) Earth worm (D) Star fish
98. **The branch which deals with the study of abnormal structures is:**
(A) Physiology (B) Teratology
(C) Gerontology (D) Herpetology
99. **Haemophilia is caused due to abnormalities in:**
(A) Hormone (B) Gene
(C) Metabolism (D) Environment
100. **The syndrome which leads to tallness and aggressiveness is:**
(A) XXY (B) XO
(C) XYY (D) XXX

101. Tetogens are:

- (A) Genetic factors
- (B) Environmental factors
- (C) Hormonal facts
- (D) Metabolic factors

102. Match tetrogen with the deficiency of one of the following:

- (A) Insulin
- (B) Gene
- (C) Nutritional
- (D) None

103. The condition of small skull is:

- (A) Haemophilia
- (B) Cleft palate
- (C) Microcephaly
- (D) Polydactyl

104. Match harelip with one of the followings:

- (A) Haemophilia
- (B) Cleft palate
- (C) Microcephaly
- (D) Polydactyl

105. The intercalary meristem is:

- (A) Meristem present at the tip of roots
- (B) Meristem present at the tip of stem
- (C) Meristem present at the base of inter node
- (D) Meristem present in the vascular tissues

106. Indeterminate growth is:

- (A) Growth stops after some times
- (B) Growth stops but starts again
- (C) Growth never stop
- (D) Growth continues during youth age

107. Xylem and phloem are formed in:

- (A) Phase of cell division
- (B) Phase of cell elongation
- (C) Phase of maturation
- (D) Phase of differentiation

108. Differentiation means:

- (A) Formation of similar cells from different cells
- (B) Formation of different tissues from similar cells
- (C) Formation of similar tissues from similar cells
- (D) None of the above

109. Growth correlation means:

- (A) One part inhibit the growth of other part
- (B) One part promote the growth of the other part
- (C) One part affects the growth of the other part
- (D) All of the above

110. Discoidal cleavage means:

- (A) All the part of egg takes part in cleavage
- (B) Only Whitish of egg takes part in cleavage
- (C) Only yellow of egg takes part in cleavage
- (D) Only disc like part takes part in cleavage

111. Primitive streak forms:

- (A) Digestive system of embryo (B) Muscles of embryo
- (C) It does not form any structure (D) It supports the embryo

112. Grey crescent marks the:

- (A) Formation of nervous system (B) Formation of blastopore
- (C) Formation of blastocoel (D) None of the above

113. Grey equatorial cytoplasm forms:

- (A) Larval epidermis (B) Muscles cells
- (C) Development of gut (D) Notochord and neural tube

114. The role of cytoplasm in development is:

- (A) Acts as template to form new structure
- (B) Receives information from nucleus
- (C) Turns the genes on and off
- (D) Does not take part in development

115. Which of the following is not aging?

- (A) Loss of hair pigment (B) Dryness of skin
- (C) Increase of number of cells (D) Increase of body weight

116. Planaria has:

- (A) Differentiated cells for regeneration
- (B) Undifferentiated cells for regeneration
- (C) Special cells for regeneration
- (D) None of the above

Answers

Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.	Sr.	Ans.
1.	(B)	2.	(C)	3.	(C)	4.	(C)	5.	(A)
6.	(D)	7.	(D)	8.	(D)	9.	(C)	10.	(C)
11.	(A)	12.	(A)	13.	(A)	14.	(C)	15.	(D)
16.	(A)	17.	(C)	18.	(B)	19.	(D)	20.	(D)
21.	(D)	22.	(A)	23.	(A)	24.	(B)	25.	(D)
26.	(C)	27.	(A)	28.	(A)	29.	(A)	30.	(D)
31.	(B)	32.	(C)	33.	(B)	34.	(A)	35.	(B)
36.	(D)	37.	(D)	38.	(B)	39.	(A)	40.	(A)
41.	(D)	42.	(B)	43.	(B)	44.	(C)	45.	(C)
46.	(B)	47.	(A)	48.	(C)	49.	(B)	50.	(D)
51.	(A)	52.	(C)	53.	(C)	54.	(D)	55.	(D)
56.	(C)	57.	(C)	58.	(C)	59.	(B)	60.	(B)
61.	(D)	62.	(A)	63.	(B)	64.	(C)	65.	(A)
66.	(B)	67.	(B)	68.	(A)	69.	(C)	70.	(B)
71.	(B)	72.	(C)	73.	(B)	74.	(C)	75.	(A)
76.	(B)	77.	(B)	78.	(C)	79.	(A)	80.	(D)
81.	(C)	82.	(C)	83.	(B)	84.	(C)	85.	(C)
86.	(B)	87.	(B)	88.	(C)	89.	(C)	90.	(D)
91.	(C)	92.	(D)	93.	(B)	94.	(C)	95.	(A)
96.	(D)	97.	(C)	98.	(B)	99.	(B)	100.	(C)
101.	(B)	102.	(C)	103.	(C)	104.	(B)	105.	(B)
106.	(D)	107.	(D)	108.	(B)	109.	(D)	110.	(D)
111.	(C)	112.	(B)	113.	(D)	114.	(C)	115.	(D)
116.	(B)								