BIOLOGY

BOOKS - S DINESH & CO BIOLOGY (HINGLISH)

GROWTH, REPAIR, REGENERATION AND AGEING

Multiple Choice Questions

1. Growth is

A. Increase in size

B. Increase in weight

C. Synthesis of new protoplasm

D. All of these

Answer: D

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2. Substance synthesised during growth are

A. Protoplasmic

B. Apoplasmic

C. Protoplasmic and apoplasmatic

D. Nucleic acids

Answer: C

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3. Early embroyonic developmental stages constitute

A. Functional state

B. Prefunctional state

C. Transitional growth

D. Fundamental growth

Answer: B

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4. Growth occurs when

A. Anabolism is higher than catobolism

B. Catabolism is higher than anabolism

C. Protoplasmic synthesis is more than apoplasmatic synthesis

D. Apoplasmatic synthesis is more than protoplasmic synthesis.

Answer: A

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5. Degrowth takes place when

A. Anabolism is higher than catobolism

B. Catabolism is higher than anabolism

C. Protoplasmic synthesis is more than apoplasmatic synthesis

D. Apoplasmatic synthesis is more than protoplasmic synthesis.

Answer: B

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6. Cell growth occurs during

A. Interphase

B. Mitotic phase

C. Postmitotic phase

D. Interphase and postmitotic phase

Answer: D

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7. Auxetic growth is characterised by

A. Increase in cell number

B. Growth without increase in cell number

C. Both increase in cell number and cell growth

D. Expansion in transverse direction

Answer: B

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8. Multiplicative growth in found in

A. Old age

B. Adulthood

C. Embryo

D. Childhood

Answer: C

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9. Postembryonic growth is

A. Accretionary

B. Auxetic

C. Multiplicative

D. All the above

Answer: A

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10. Accretionary growth is due to

A. Reserve cells

B. Meristematic cells

C. Embryonic cells

D. Differentiated cells

Answer: A

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11. In animals , growth rate is

A. Uniform

B. Linear

C. Differential

D. Slow

Answer: C

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12. In human beings, which part shows the minimum increase in weigth from birth to adulthood ?

A. Muscles

B. Skeleton

C. Fat

D. Brain

Answer: D

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13. In human beings, which part shows the maximum increase in weight from birth to adulthood?

A. Brain

B. Fat

C. Muscles

D. Skeleton

Answer: C

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14. Adult females tend to have less weight than adult males due to lesser development of

A. Muscles

B. Skeleton

C. Both muscles and skeleton

D. Fat

Answer: C

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15. As compared to an adult male, the adult female has more

A. Fat

B. Brain

C. Connective tissue and other parts

D. Muscles

Answer: A

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16. Growth curve indicates

A. Growth rate

B. A growth parameter at various intervals

C. Absolute growth

D. Absolute increase

Answer: B

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17. As compared to whole body, the head of new born human body is

A. One-third

B. One-half

C. One-fifth

D. One-fourth

Answer: D

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18. As compared to whole body , the head of an adult human being is

A. One-fifth

B. One-sixth

C. One-seventh

D. One-eighth

Answer: D

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19. The arms attain their proportionate size in human beings at

A. Soon after birth

B. Age of two years

C. Ten years of age

D. Fourteen years of age

Answer: A

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20. Legs attain their proper proportionate size in human beings at the age of

A. Birth

B. Two years

C. Ten years

D. 18 years

Answer: C

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21. Maximum growth in human foetus occurs at the age of

A. Four months

B. Two months

C. Six months

D. Eight months

Answer: A

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22. Approximate age of sexual maturity in human beings is

A. 10-14 years

B. 8-11 years

C. 10-13 years

D. 11-16 years

Answer: D

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23. Sexual maturity of House Mouse is attained at the age of

A. 35 days

B. 15 days

C. 45 days

D. 75 days

Answer: A

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24. Growth in the first 10-13 years of age is controlled by

A. Somatotrophic hormone

B. Thyroxine

C. Thymosin

D. Gonadotrophic hormone

Answer: C

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25. Growth at the end of childhood and during puberty is controlled by

A. Thyroxine

B. Thymosin

C. Somatotrophic hormone

D. Thyroxine and somatotrophic hormones.

Answer: D

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26. In human beings, growth stops completely at the age of

A. 18 years

B. 22-23 years

C. 25 years

D. 20 years

Answer: B

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27. Human body regularly loses cells in the region of

A. Skin surface

B. Lining layer of gut

C. Red blood cells

D. All the above

Answer: D

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28. Healing of cuts and wounds is

A. Repair

B. Regeneration

C. Dedifferentiation

D. Growth

Answer: A

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29. Repetitive regeneration is found in

A. Tadpole

B. Molluscs

C. Hydra

D. Human beings

Answer: C

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30. Reparative regeneration occurs in

A. Invertebrates

B. Vertebrates

C. Both invertebrates and vertebrates

D. A few vertebrates

Answer: C

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31. Restorative regeneration in common in

A. Vertebrates

B. Mostly invertebrates

C. In some vertebrate groups

D. In some invertebrate groups

Answer: D

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32. Regeneration was first discovered in

A. Planaria

B. Hydra

C. Sponges

D. Salamander

Answer: B

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33. Regeneration was discovered by

A. Trembley

B. Morgan

C. Huxley

D. Lamarck

Answer: A

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34. Reparative regeneration involves

A. Replacement of lost part

B. Growth of whole organism from a fragment

C. Healing of injury

D. Both A and B

Answer: C

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35. Restorative regeneration of molluscs includes the reconstitution of

A. Damaged eyes and eye stalks

B. Part of head

C. Part of foot

D. All the above

Answer: D

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36. Crustaceans, spiders and insects are able to regenerate their

A. Abdomen

B. Thorax

C. Head

D. Limbs

Answer: D

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37. Broken arms are regenerated in

A. Echinoderms

B. Molluscs

C. Human beings

D. Fishes

Answer: A

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38. Salamander and Axolotl larva regenerate

A. Limbs , eye structures and intestine

B. Jaws and external gills

C. Both A and B

D. Trunk

Answer: C

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39. Regeneration is possible in tadpoles for amputated

A. Tail and hind limbs

B. Jaws and eyes

C. Intentine

D. Forelimbs

Answer: A

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40. What is true about regeneration ?

A. Beak in birds

B. Tails in lizards

C. Fish fins

D. All the above

Answer: D

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41. Mammals can generate

A. Brain

B. Liver

C. Lung

D. Urinary bladder

Answer: B

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42. Autotomy is recoreded in

A. legs in crabs

B. Tail of lizards

C. Viscera in holothurian echinoderms

D. All the above

Answer: D

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43. Morphallaxis is

A. Reconstruction of the whole body

B. Growth of lost limb

C. Healing of injury

D. Regeneration with the help of blastema.

Answer: A

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44. Morphallaxis is reported in

A. Porifers

B. Coelenterates and flatworms

C. Nemarteans and some ascidians

D. All the above

Answer: D

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45. Regeneration of a limbs or tail is an example of

A. Compensatory hypertropy

B. Epimorphosis

C. Morphallaxis

D. Autotomy

Answer: B

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46. Accumulation of cells and formation of a bud at the site of amputation is

A. Morphallaxis

B. Reparative bud

C. Blastema

D. Both A and B

Answer: C

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47. Factors controlling regeneration seem to be

A. Neural

B. Hormonal

C. Both neural and hormonal

D. Genetic

Answer: C

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48. Restorative regeneration decrease with

A. Increase in complexity of organisation

B. Decrease in organisational complexity

C. Development of hormones

D. Development of nerves

Answer: A

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49. Gerontology is the branch of science that deals with

A. Sexual reproduction

B. Ageing

C. Embryo development

D. Asexual reproduction

Answer: B

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50. Ageing is characterised by

A. Decline in metabolic activity

B. Increase anabolism

C. Increase catabolism

D. Increase catabolism

Answer: A

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51. The pumping capacity of heart in 70 years old person as compared to 30 years old person is

A. $35\ \%$

B. $50\ \%$

C. $65\ \%$

D. $55\ \%$

Answer: C

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52. Number of brain cells dead at the age of 70 years constitue

A. $10\ \%$

B. $20\ \%$

C. $30\ \%$

D. $35\ \%$

Answer: B

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53. Decline in hearing power begins after the age of

A. 50 years

B. 35 years

C. 45 years

D. 10 years

Answer: D

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54. During ageing, collagen present in intercellular spaces becomes

A. Destroyed

B. Impermeable and rigid

C. More elastic

D. All the above

Answer: B

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Revision Question From Competitive Exams

1. IN an aging person ,there is a

A. Increase in mucopolysaccharide cement of connective tissue

B. Gradual alteration in components of connective tissue

C. Increasing collagen rigidity of connective tissue

D. Both B and C

Answer: D

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2. Grouth harmone activity is

A. Unaffected by thyroxin

B. Increased by thyroxin

C. Decreased in thyroxin

D. None of above

Answer: B

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3. Auxetic growth is characterised by

A. Increase in cell volume only

B. Increase in cell number only

C. Increase in fatty tissue

D. Increase in intercelluar material.

Answer: A

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4. The ability of animals to regenerate lost parts was first reported by

A. Patten

B. Trembley

C. Storer

D. carison

Answer: B

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5. According to immunity theory ,ageing is due to

A. Accumulation of errors

B. Reduced functioning of endocrine glands

C. Degeneration of thymus

D. Accumulation of waste products.

Answer: C

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6. Ageing starts with disapperance of

A. Spleen

B. Pituitary gland

C. Thymus

D. Parathyroid gland

Answer: C

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7. Branch of biology dealing with ageing is

A. Gerontology

B. Psychobiology

C. Kalology

D. Dermatology.

Answer: A

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8. Ausetic growth occurs in

A. Humans beings

B. Frog

C. Nematods

D. Lizards

Answer: C

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9. In ageiung there is

A. Decrease in cholestrol level

B. Increase in calcium contents of artries and cartilage

C. Decrease in calcium contents of artries and cartilage

D. Decrease in blood urea

Answer: B

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10. Eviscreation occurs in

A. Coelenterata

B. Annelida

C. Echinodermata

D. Chordata

Answer: C

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11. Characteristic autonomy occurs in

A. Lizards

B. Snakes

C. Frogs

D. Cockroaches

Answer: A

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12. With the advancement of age ,hair of males starts thinking due to

A. Falling of hair

B. Low ATP formation

C. Reduced rate of protien synthesis

D. None of above

Answer: C

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13. Most accepted theory of ageing os

A. Death of brains cells

B. Non-functioning of α-cells in pancreas

C. Less RBC in blood

D. Non-functioning of thymus gland.

Answer: D

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14. Growth rate in childhood is controlled by

A. Thymosine

B. Thyroxine

C. Progesterone

D. Oestrogen

Answer: A

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15. Which is not connected with theory of ageing

A. Wear and tear

B. Neuroharmonal changes

C. Epimorphosis

D. Metabolic rate

Answer: C

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16. During regeneration ,modification of an ogan to another is knwon as

A. Morphogenesis

B. Epimorphosis

C. Morphallaxis

D. Accretionary growth.

Answer: C

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17. Regeneration of hydra is

A. Morphollaxis by interstitial cells

B. Epimorphosis by interstitial cells

C. Epimorphosis by archaeocytes

D. Epimorphosis by grandular cells

Answer: A

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18. In animals, chalones are substance resposible for

A. Regeneration

B. Ageing

C. Development

D. Parthenogenesis

Answer: B

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19. Growth is irreversible process found at organisation level

A. Subcellular growth

B. Cellular growth

C. Organ growth

D. All the above

Answer: D

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20. Growth in living being in mainly by

A. Accretion

B. Aggregation

C. Intussusception

D. Accumulation

Answer: C

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21. If Hydra is broken into pieces

A. Hydra will die

B. Hydra will undergo sexual reproduction

C. Some fragment will form complete Hydra

D. Every fragment will grow into complete Hydra

Answer: D

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22. Semilog of per minutes growing bacteria is plotted against time. What will be shape of graph?

A. Ascending strainght line

B. Sigmoid

C. Hyperbolic

D. Descending straight line

Answer: A

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23. Choose the correct sequence of stages of growth curve for bacteria

A. Lag, log, stationary and decline

B. Lag, log, decline, and stationary

C. Stationary , lag, log, decline

D. Decline, lag and log phase

Answer: B

24. Formation of whole body from a fragment is

A. Morphallaxis

B. Epimorphosis

C. Epigenesis

D. Auxetic growth

Answer: A

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25. Maximum growth rate occur in

A. Stationary phase

B. Lag phase

C. Exponential phase

D. Senescent phase

Answer: C

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26. Maximum life span of a dog is

A. 5 years

B. 10 years

C. 15 years

D. 20 years

Answer: D

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27. Which one is not a case of epimorphosis ?

A. Replacement of limb in Salamander

B. Formation of sperms from small clump of cells

C. Replacement of severed arm of Star Fish

D. Regeneration of tail by lizard

Answer: B

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28. Which is the correct example of the type of regeneration out of two major types ?

A. Morhpallaxis-Regeneration of two transversely cut equal pieces of one Hydra into two small Hydras

B. Epimorphosis-Replacement of old and dead erythrocytes by the new ones

C. Morphallaxis-Healing of wound in the skin

D. Epimorphosis -Regeneration of crushed and filtered out pieces of Planaria into as many new planarians.

Answer: A

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29. Assertion . Senescence is the time when age associated defects are manifested

Reason . Certain genes may be undergoing sequential switching on and off during one's life

A. if both are true and reason is correct explanation

B. both are true reason is not correct explanation

C. assertion is true but reason is wrong

D. and both are wrong

Answer: A

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30. Assertion. Smaller the organism, higher is the rate of metabolism per gram weigth.

Reaons. The heart rate of six months old bady is much higher than that of person

A. if both are true and reason is correct explanation

B. both are true reason is not correct explanation

C. assertion is true but reason is wrong

D. and both are wrong

Answer: A

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31. The greatest ability of regeneration amongst the animals is found in

A. Ascaris

B. Pheretima

C. Hirudinaria

D. Planaria

Answer: D

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32. Growth through increase in volume is

A. Cartilage

B. Striated muscle

C. Nerve fibre

D. Lens of eye

Answer: B

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33. Ageing is due ot accumulation of harmful proteins . The theory is

A. Free radical

B. Cross-linking

C. Error catastrophe

D. Cross linking

Answer: C

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34. Free radicals are formed through

A. Oxidation

B. Reduction

C. Hydrolysis

D. Synthesis

Answer: A

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35. Read the statement and find out true/false

(a) Type of regeneration in Hydra is known as epimorphosis

(b) Members of reptiles such as lizards exhibit autotomy

(c) Regeneration of limb in amphibians involves morphallaxis

A. a and b are false but c is true

B. a and c are false but b is true

C. b and c are false but a is true

D. b and c are true but a is false

Answer: B

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36. Programmed cell death is

A. Cell lysis

B. Autotomy

C. Apoptosis

D. None of the above

Answer: C

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37. Regeneration of liver is

A. Epimorphosis

B. Reparative regeneration

C. Metamorphosis

D. Morphogenesis

Answer: B

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38. Axolotl larva shows i. Neoteny and paedogenesis ii. Absence of thyroxine affects metamorphosis iii. It is hemichordata

A. I, ii and iii correct

B. I and ii correct

C. ii and iii correct

D. iii correct

Answer: B

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39. Regeneration of Hydra would be faster if it is cut off from

A. Tentacles

B. Hypostome

C. Base

D. All the above

Answer: A

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40. One of the major reasons for apoptosis is

A. Lack of polymerases

B. Activity of endonucleases

C. Activity of mitochondria

D. Reduced food intake

Answer: C

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41. In can regenerate entire alimentary canal

A. Fish

B. Amphibian

C. Bird

D. Sea Cucumber

Answer: D

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42. Match the columns and choose the correct combination

I		II
1. Carp	*a*	102 years
2. Cobra	*b*	47 years
3. Turtle	*c*	152 years
4. Giant Tortoise	*d*	28 years
5. **Swan**	*e*	123 years

(A) $1-b, 2-d, 3-e, 4-c, 5-a$
(B) $1-a, 2-d, 3-c, 4-e, 5-b$
(C) $1-b, 2-c, 3-d, 4-e, 5-a$
(D) $1-a, 2-c, 3-b, 4-e, 5-d$
(E) $1-c, 2-d, 3-e, 4-b, 5-a$

A. 1-b,2-d,3-e,4-c,5-a

B. 1-a,2-d,3-c,4-e,5-b

C. 1-b,2-c,3-d,4-e,5-a

D. 1-c,2-d,3-e,4-b,5-a

Answer: A

43. Reserve cells are

A. Differentiated with no capacity of cell division

B. Differential with capacity of cell division

C. Undifferentiated with capacity of cell division

D. Undifferentiated with no. capacity of cell division.

Answer: C

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44. "Genes in somatic cells undergoe mutation with time and cause senescence ." This theory belongs to

A. Error and damage theories

B. Hormonal theory

C. Immunological theories

D. Programmed senscence theory

Answer: A

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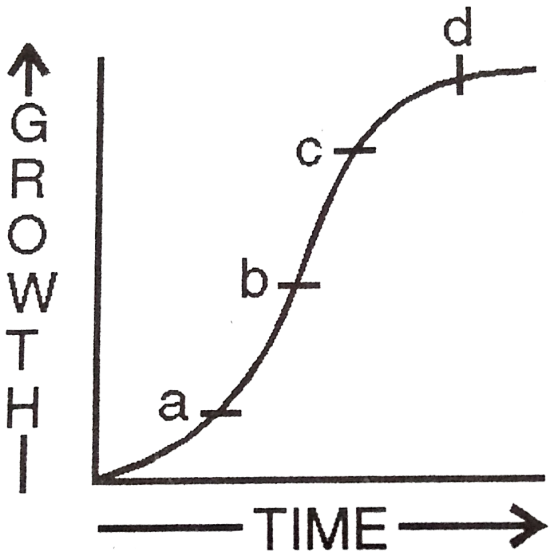
45. Choose the correct option of alphabets for phases in accompanying growth curve



A. a-rapid growth, b-diminhing growth, c-stationary , d-slow growth

B. a-slow, growth, b-exponential growth, c-diminishing growth, d-stationary

C. a-stationary , b-slow growth, c-rapid growth, d-diminishing growth

D. a-diminishing growth, b-exponential growth, c-slow growth, d-stationary growth

Answer: B

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46. A gradual decrease in size of tail during metamorphosis of frog is due to

A. Cell mecrosis

B. Pinocytic activity

C. Programmed cell death

D. Cell senescence

Answer: C

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47. Protein which plays a significant role in ageing is

A. Actin

B. Myosin

C. Collagen

D. Elastin

Answer: C

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48. Ageing of skin results in

A. Thickening of skin

B. Increase in toe-nail growht

C. Increase in collagen and elastin fibres

D. Decrease in activity of sebaceous glands

Answer: D

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49. According to which theory is the given statement correct ?

Statement. B and T cells having receptors for self antigens, undergo programmed cell death

A. Somatic mutation theory

B. Programmed senescence theory

C. Wear and tear theory

D. Immunological theory .

Answer: B

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50. It is not related to replacement of degenerated red blood cells by new ones

A. Growth through undifferentiated of degenerated

B. Growth through reserved cells

C. Multiplication growth

D. Accretionary growth.

Answer: C

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51. Match the columns and choose the correct combination

I		II	
a	Butterfly	1.	60 years
b	Crow	2.	140 years
c	Parrot	3.	15 years
d	Crocodile	4.	1 – 2 weeks

(A) $a-1, b-2, c-3, a-4$

(B) $a-4, b-3, c-2, a-1$

(C) $a-4, b-3, c-1, a-2$

(D) $a-2, b-3, c-4, a-1$

(E) $a-3, b-2, c-1, d-4$.

A. a-1, b-2,c-3,a-4

B. a-4,b-3,c-2,d-1

C. a-4,b-3,c-1,d-2

D. a-3,b-3,c-4,d-1

Answer: B

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52. Number of brain cells that become deat at the age of 70 years constitute

A. $10\ \%$

B. $20\ \%$

C. $30\ \%$

D. $55\ \%$

Answer: B

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53. Read the statement and choose the correct answer

(a) Type of regeneration in Hydra is known as epimorphosis (b) Reptiles such as lizard exhibit autotomy (c) Regeneration of amphibian limb involves morphallaxis . Of these statements.

A. a and b are false but c is true

B. b and c are false but a is true

C. b and c are true, a is false

D. a and c are false but b is true

Answer: D

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54. In autotomy , regeneration of this limb takes place

A. Eye

B. Liver

C. Bone

D. Tail

Answer: D

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55. When growth takes place only by increase in volume of existing cells, it is called

A. Auxetic growth

B. Multiplication growth

C. Accretionary growth

D. Differentiated cells

Answer: A

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Check Your Grasp

1. Ageing involves reduction in weight of

A. Brain

B. Liver

C. Whole body

D. All the above

Answer:

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2. Ageing pigment is

A. Melanin

B. Biliverdin

C. Lipofuscin

D. Collagen

Answer:

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3. Father of gerontology is

A. Korenchevsky

B. Hayflick

C. Trembley

D. Sachs

Answer:

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4. Growth in human brain from new born to adult is

A. 100 gm to 1 kg

B. 400 km to 1.4 kg

C. 0.2-1.4 kg

D. 1.4 to 2.4 kg

Answer:

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5. At death pupil

A. Becomes narrow

B. Become wide

C. Shows no reaction to light

D. Both B and C

Answer:

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Brain Teasers Vi B

1. Foetus is embryo

A. On implantation

B. Right from the beginning

C. On appearance of external features

D. On appearance of internal organs

Answer: C

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2. In mammals, the embryo begins to grow

A. Soon after implantation

B. Soon after fertilization During descent

C. During descent

D. Only after formation of placenta

Answer: A

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3. Imlantation is delayed for several days in

A. Human beings

B. Seals

C. Bats

D. Both B and C

Answer: D

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4. Colostrum is

A. Remains of placenta ejected after child bith

B. Fore milk

C. Fluid passed out prior to delivery of child

D. Union with umbilical cord

Answer: B

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5. Colostrum should be

A. Given to bady as it is rich in antibodies

B. Discarded as it contains high concentration of antibodies

C. Discarged as it is without nourishment

D. Given as it stimulates sucking

Answer: A

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6. Number of teats in Pig is

A. Two

B. Four

C. $10 - 14$

D. 20

Answer: C

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