



BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA

BIOLOGY (GUJRATI ENGLISH)

MODEL QUESTION PAPER FOR ANNUAL
EXAM

Part A

1. What is the peculiarity of flowering in Neelakurinji
(*Strobilanthes kunthianus*)

(A) lowering takes place daily

(B) Every year flowering takes place in particular season

(C) Flowering takes place once in a year

(D) Once in 12 years flowering takes place

A. Flowering takes place daily

B. Every year flowering takes place in particular season

C. Flowering takes place once in a year

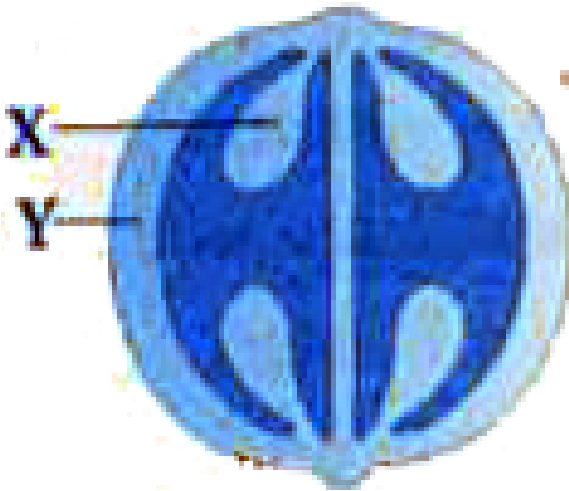
D. Once in 12 years flowering takes place

Answer:



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2. Identify X and Y in figure



A. X-Seeds, Y-Embryo

B. X- Pericarp, Y-Embryo

C. X-Seeds, Y-Pericarp

D. X-Pericarp, Y-Seeds

Answer:



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3. How vegetative propagation takes place in Banana?

(A) Runner

(B) Bulbil

(C) Offsets

(D) Rhizome

A. Runner

B. Bulbil

C. Offsets

D. Rhizome

Answer:



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4. Assertion A: Pollen grains can survive against high temperature, conc acid and base.

Reason R: Outer -layer of pollen grain is made up of sporopollenin

(A) A and R both are true and R is correct explanation of A

(B) A and R both are true, but R is not the explanation of A

(C) A is true, R is wrong

(D) A is wrong and R is true

A. A and R both are true and R is correct

explanation of A

B. A and R both are true, but R is not the

explanation of A

C. A is true, R is wrong

D. A is wrong and R is true

Answer:



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5. Pollen grains can be stored for several years in liquid nitrogen having a temperature of

(A) $-160^{\circ}C$

(B) $-120^{\circ}C$

(C) $-196^{\circ}C$

(D) $-80^{\circ}C$

A. $0^{\circ}C$

B. $37^{\circ}C$

C. $100^{\circ}C$

D. $-196^{\circ}C$

Answer:



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6. From below, identify the group consisting of Perisperm.

(A) Black pepper, Beet

(B) Black pepper, Pea

(C) Beet, Gram

(D) Pea, Bean

A. Black pepper, Beet

B. Black pepper, Pea

C. Beet, Gram

D. Pea, Bean

Answer:



7. Match Column A with Column B

Column - A		Column - B	
(P)	Myometrium	(i)	Outermost layer of uterus
(Q)	Perimetrium	(ii)	Middle layer of Uterus
(R)	Endometrium	(iii)	Inner layer of uterus
(S)	Mons pubis	(iv)	Made up of Adipose tissue

(A) (P-i), (Q-ii), (R-iv), (S-iii)

(B) (P-ii), (Q-i), (R-iii), (S-iv)

(C) (P-ii), (Q-iii), (R-iv), (S-i)

(D) (P-iv), (Q-iii), (R-ii), (S-i)

A. (P-i), (Q-ii), (R-iv), (S-iii)

B. (P-ii), (Q-i), (R-iii), (S-iv)

C. (P-ii), (Q-iii), (R-iv), (S-i)

D. (P-iv), (Q-iii), (R-ii), (S-i)

Answer:



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8. Choose the options which is having all true statements.

(1) Sperm gets nutrition from sertoli cells

(2) Sertoli cells produce androgens

(3) Leydig cells produce androgens

(4) Leydig cells are produced by ovary.

(5) Menstruation is not observed during pregnancy

(A) 1, 3 and 5

(B) 3, 5

(C) 2, 4 and 5

(D) 3, 4 and 5

A. 1, 3 and 5

B. 3, 5

C. 2, 4 and 5

D. 3, 4 and 5

Answer:



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9. In which method, there is no chance of repregnancy after sterilization?

- (A) Physical barrier method
- (B) Chemical barrier method
- (C) Sterilization method
- (D) Natural barrier method

A. Physical barrier method

B. Chemical barrier method

C. Sterilization method

D. Natural barrier method

Answer:





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10. By which microorganism, the sexual transmitted disease are transmitted?

- A. Virus, Bacteria
- B. Fungus, Protozoa
- C. Virus, Bacteria, Fungus
- D. Virus, Fungus, Bacteria, Protozoa

Answer:



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11. Assertion A: Couples should keep away from copulating during 10 to 17 days of menstruation.

Reason R: There is highest chance of fertilization during 1 to 17 days of menstruation

(A) A and R both are correct, R is correct explanation for A

(B) A and R both are correct, R is not correct explanation of A

(C) A is correct and R is incorrect

(D) A is incorrect and R is correct

A. A and R both are correct, R is correct explanation for A

B. A and R both are correct, R is not correct

explanation of A

C. A is correct and R is incorrect

D. A is incorrect and R is correct

Answer:



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12. The functions of copper ions released from copper device (IUDS) in uterus is

A. Increase protection of Sperms

B. Stop ovulation

C. Prepare uterus for embryo implanaton

D. Inhibits motility and fertilization efficiency of sperms

Answer:



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13. Chromosome behave like genes- who had studied this phenomena?

A. Correns and Tschermak

B. Morgan and Devries

C. Sutton and Boveri

D. Mendel and Boveri

Answer:



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14. Which genotype is responsible for Turner's Syndrome?

A. XXY

B. XXX

C. XYY

D. XO

Answer:



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15. What is the proportion of colorblindness observed in male?

A. 0.4%

B. 0.08

C. 0.4

D. 0.8

Answer:



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16. Which genetic code is responsible for two (dual) functions?

A. UAA

B. AUG

C. CUC

D. GAG

Answer:



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17. Full form of VNTR is...

- A. Variabe number of Tandum Repeats
- B. Variable Nucleotides Tandum Repeats
- C. Variable Nucleotides Tandum Repeats
- D. Varaible Number Tandum Ribsomers

Answer:



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18. How DNA fragment can be isolated?

(A) Gas chromatography

(B) Electrophoresis

(C) PCR

(D) Ligase

A. Gas chromatography

B. Electrophoresis

C. PCR

D. Ligase

Answer:



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19. Thorn of Bougainvillea and tendril of cucurbita is an example of

A. Homologous organs

B. Analogous organs

C. Vestigial organs

D. None of the above

Answer:



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20. Assertion X: Most of the Australian marsupials were different from each other.

Assertion Y: Australian marsupials were evolved from different ancestors

A. Both X and Y are true

B. X is true, Y is false

C. X is false, Y is true

D. Both X and Y are false

Answer:



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21. Choose correct alternative for True(T) and False(F)

type of statement

(a) Analogous organs- Insects and Birds

(b) Vestigial organs- Appendix, Wisdom tooth

(c) Homologous organs- Man, Bird, Whale

(d) Connctive line- Pisces and Reptelia

A. TFFT

B. TTFF

C. TTTF

D. TTTT

Answer:



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22. Which bio-molecules are required to construct life?

A. Protein

B. Nucleoprotein

C. Carbohydrates

D. Lipids

Answer:



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23. High fever, weakness, stomach pain, headache and intestinal perforation are the symptoms of which disease?

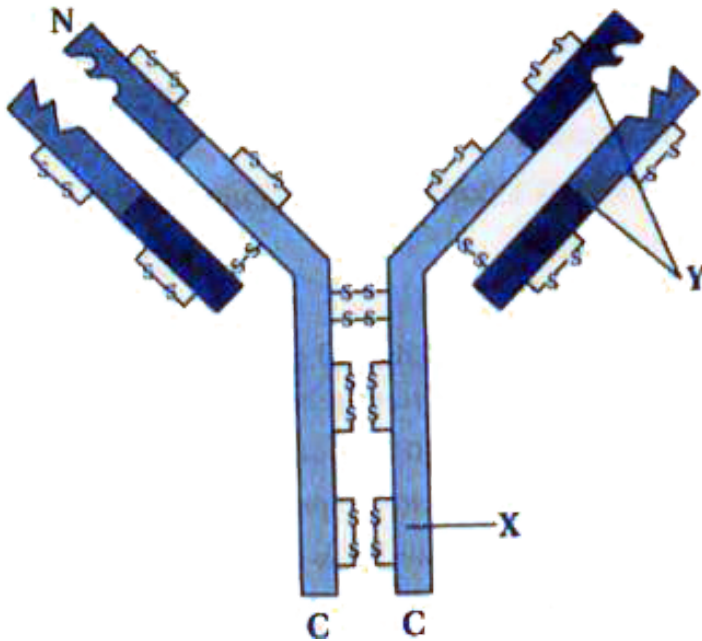
- A. Pneumonia
- B. Typhoid
- C. Elephantiasis
- D. Malaria

Answer:



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24. Label X and Y in given figure



- A. X-Heavy chain, Y-Light chain
- B. X-Heavy chain, Y-antigen binding site
- C. X-Light chain, Y-antigen binding site
- D. X-Antigen binding site, Y-Light chain

Answer:



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25. Match the following

Column - A		Column - B	
(i)	Physical barrier	(P)	White blood cells
(ii)	Physiological barrier	(Q)	Skin
(iii)	Cellular barrier	(R)	Interferon
(iv)	Cytokinin barrier	(S)	Watering of Eyes

(A) (i-P), (ii-S), (iii-R), (iv-Q)

(B) (i-Q), (ii-S), (iii-P), (iv-R)

(C) (i-Q), (ii-P), (iii-R), (iv-S)

(D) (i-P), (ii-R), (iii-Q), (iv-S)

A. (i-P), (ii-S), (iii-R), (iv-Q)

B. (i-Q), (ii-S), (iii-P), (iv-R)

C. (i-Q), (ii-P), (iii-R), (iv-S)

D. (i-P), (ii-R), (iii-Q), (iv-S)

Answer:



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26. In developed or hybrid maize, which two amino acids remain in high amount in comparison to existing maize?

A. Lysine and Arginine

B. Tryptophane and Methionine

C. Lysine and Tryptophane

D. Arginine and Methionine

Answer:



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27. Assertion X: *Saccharum barberi* was grown in north India and has poor sugar content and yield.

Assertion Y: *Saccharum officinarum* of south India had thinner stem and lower sugar content

(A) X and Y both are true

(B) X and Y both are false

(C) X true, Y-false

(D) X-false, Y - true

A. X and Y both are true

B. X and Y both are false

C. X true, Y-false

D. X-false, Y - true

Answer:



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28. Find the matched pair

A. *Aspergillus niger*- Acetic Acid

B. *Acetobacter aceti*-Citric Acid

C. *Trichoderma polysporum*- Statins

D. *Clostridium butyricum*-Butyric Acid

Answer:



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29. The free-living fungus *Trichoderma* can be used for

A. To destroy Insecticides

B. To destroy lady bird and dragon fly

C. As a biocontroller in plant diseases

D. Production of antibiotics

Answer:



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30. Mycorrhiza: Glomus fungi Nitrogen fixing free living bacteria :

A. Rhizobium

B. Thiobacillus

C. Pseudomonas

D. Azatobacter

Answer:



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31. Assertion X: Baculo virus produces disease in insects and arthropoda

Assertion Y: Baculo virus is biocontroller and belongs to Nucleopolyhedrovirus genera

(A) X and Y both are true

(B) X is true, Y is false

(C) X is false, Y is true

(D) X and Y both are false

A. X and Y both are true

B. X is true, Y is false

C. X is false, Y is true

D. X and Y both are false

Answer:



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32. The enzyme restriction endonuclease _____

A. Cuts DNA at specific locations

B. Identifies specific sequence of nucleotides to
join molecules of DNA ligase

C. Inhibits activity of enzyme DNA polymerase

D. Removes nucleotides from end of DNA
molecules

Answer:



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33. Which are the basic step to produce genetically modified organisms?

- A. Identification of desired genes
- B. Introduction of identified DNA into host
- C. Maintenance and translocation of DNA into offspring of a introduced DNA
- D. All of the above

Answer:



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34. Which sequence is correct for PCR method?

A. Amplification - Annealing - Denaturation

B. Denaturation- Annealing- Amplification

C. Annealing- Denaturation- Amplification

D. Denaturation- Amplification- Annealing

Answer:



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35. Which optimum conditions are required to obtained desired products from Bioreactor?

(A) Temperature, pH, O_2 and CO_2

(B) Temperature, pH, O_2 and Vitamin

(C) Reactant, salts, pH and Density

(D) Salts, Vitamin, O_2 and Pressure

A. Temperature, pH, O_2 and CO_2

B. Temperature, pH, O_2 and Vitamin

C. Reactant, salts, pH and Density

D. Salts, Vitamin, O_2 and Pressure

Answer:



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36. Which vitamin is rich in golden rice?

A. Vitamin- D

B. Vitamin-C

C. Vitamin-A

D. Vitamin- B_{12}

Answer:



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37. Which disease was cured for the first time by gene therapy?

(A) Adenosine deaminase

(B) Arthritis

(C) Diabetes mellitus

(D) Chicken pox

A. Adenosine deaminase

B. Arthritis

C. Diabetes mellitus

D. Chicken pox

Answer:



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38. Human protein Antitrypsin is useful to cure which disease?

A. Arthritis

B. Alzheimer

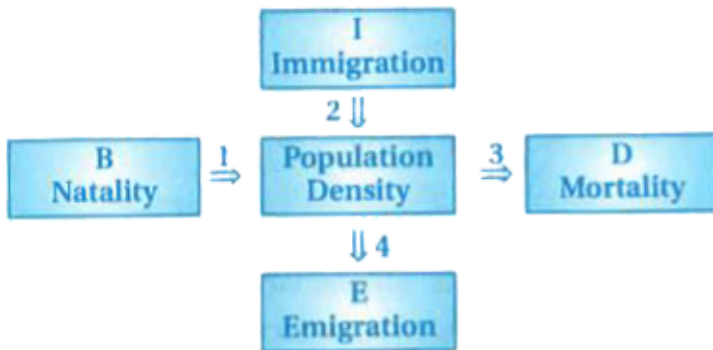
C. Emphysema

D. Cancer

Answer:

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39. Choose 1,2,3 and 4 from the given alternative



(A)

1	2	3	4
Increment	Decrement	Increment	<i>Decrement</i>

(B)

1	2	3	4
Decrement	Increment	Decrement	Increment

(C)

1	2	3	4
Increment	Increment	Decrement	Decrement

(D)

1	2	3	4
Decrement	Decrement	Increment	Increment

A.

1	2	3	4
Increment	Decrement	Increment	<i>Decrement</i>

B.

1	2	3	4
Decrement	Increment	Decrement	Increment

C.

1	2	3	4
Increment	Increment	Decrement	Decrement

D.

1	2	3	4
Decrement	Decrement	Increment	Increment

Answer:



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40. Organisms breed only once in their lifetime.

A. Pacific salmon

B. Bamboo

C. Parrot

D. A and B both

Answer:



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41. Closely related species competing for the same resources cannot co-exist indefinitely and the competitively inferior one will be eliminated eventually.

Who has given this hypothesis?

A. Darwin

B. Gause's competitive exclusion

C. Morgan

D. Mendel

Answer:



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42. In which Indian national park, thousands of birds from syberia and northern region become guest?

A. Keoladeo national park- Bharatpur- Rajasthan

B. Kaziranga national park- Assam

C. Kanha national park - MP

D. Gir national park-Gujarat

Answer:



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43. Grass Goat-Man they are consisting in a food chain as a.....

A. Consumer-Producer-Primary consumer

B. Producer-Primary consumer-Secondary consumer

C. Primary consumer-Producer-Decomposer

D. Producer-Primary consumer-Decomposer

Answer:



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44. Who has tried to estimate the value of ecological services?

- (A) Darwin
- (B) Robert May
- (C) Robert Constanza
- (D) David Tilman

A. Darwin

B. Robert May

C. Robert Constanza

D. David Tilman

Answer:



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45. Who is representative for maximum number of species in reference to world biodiversity ?

(A) Alga

(B) Lichens

(C) Moss

(D) Fungi

A. Alga

B. Lichens

C. Moss

D. Fungi

Answer:



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46. How many Hotspots were added afterwards ?

(A) 9

(B) 25

(C) 34

(D) 10

A. 9

B. 25

C. 34

D. 10

Answer:



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47. How many species have been extinct by last 500 years according to IUCN- 2004

(A) 784

(B) 748

(C) 27

(D) 584

A. 784

B. 748

C. 27

D. 584

Answer:



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48. Which impurity will remain as colloid in dirty water body?

A. Clay

B. Bacteria

C. Phosphate

D. Ammonia

Answer:



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49. In which year, Government of India passed the Environment (Protection) Act ?

(A) 1974

(B) 1980

(C) 1984

(D) 1986

A. 1983

B. 1986

C. 1981

D. 1984

Answer:



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Part B Section A

1. Explain the formation of zygote

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2. Explain microgametogenesis

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3. Give explanation for sterility



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4. Explain co-dominance in human with example.



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5. Define nucleosome and nucleoid



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6. Explain the molecular structure of the antibody

(Figure not required)



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7. Water is abiotic factor in ecology. Explain this statement



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8. Describe productivity as a unit of Ecosystem.



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9. What is Eutrophication ?



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10. Explain invasion of alien species with example.

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Part B Section B

1. Give the important features of genetic code.

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2. Explain the evolution of human beings.

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3. Explain Allergy



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4. Explain Apiary



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5. Explain biological fertilizers in brief



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6. Explain the formation of insulin by genetic engineering method



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7. Explain in-situ conservation in detail



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8. Write Carbon Cycle.



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1. Explain oogenesis in female with chart



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2. Explain inheritance of genes according to Mendel with the help of a table



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3. Explain Meselson- Stahl experiment



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4. Describe Tissue culture.



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