

India's Number 1 Education App

BIOLOGY

BOOKS - NEET PREVIOUS YEAR (YEARWISE + CHAPTERWISE)

BIOTECHNOLOGY : PRINCIPLES AND PROCESSES



1. Which of the following is commolnly used as a vector for introducing a DNA fragement in human lymhocytes?

A. Retrovirus

B. Ti plasmid

C. λ phage

D. pBR332

Answer: A

2. The correct order of steps in polymerase chain Reaction (PCR) is

A. Extension, Denaturation, Annealing

B. Annealing, Extension, Denaturation

C. Denaturation, Extension, Anneasling

D. Denaturation, Annealing, Extension

Answer: D

3. What is the criterion for DNA fragments movement on agarose gel during gel electrophoresis ?

A. The larger the fragement size, the

farther it moves

B. The smaller the fragment size, the father

it moves

C. Positively charged fragments move to

farther end

D. Negatively charged fragments do not

move

Answer: B



4. The process of separation and purification

of expressed protein before marketing is called

A. Upstream processing

- B. Downstream processing
- C. Bioprocessing
- D. Postproduction processing

Answer: B

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5. A gene whose expression helps to indentify

transformed cell is known as

A. Selectable marker

B. Vector

C. Plasmid

D. Structural gene

Answer: A

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6. The DNA fragments separated on an agarose gel can be visualised after staining with

- A. Bromophenol blue
- B. Acetocarmine
- C. Aniline blue
- D. Ethidium bromide

Answer: D

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7. Restriction endonucleases are

A. Used in genetic engineering for ligating

two DNA molecules

B. Used for in vitro DNA synthesis

C. Synthesised by bacteria as part of their

deense mechanism

D. Present in mammalian cell for

degradation of DNA when the cell dies

Answer: C

8. Which of the following restriction enzymes

produces blunt ends

A. Xho I

B. Hindi III

C. Sal I

D. Eco RV

Answer: D

9. Which of the following is not a component

of downstream processing

A. Preservation

B. Expression

C. Separation

D. Purification

Answer: B

10. A foreign DNA and plasmid cut by the same restriction endonuclease can be joined to form a recombinant plasmid using

A. Polymerase-III

B. Ligase

C. ECO RI

D. Taq polymerase

Answer: B

11. Stirred-tank bioreactors have been designed for

A. Vailability of oxygen throughout the

B. Ensuring anaerobic conditions in the

culture vessel

process

C. Purification of product

D. Addition of preservatives to the product







12. Which of the following is a resctriction endonucleus?

A. Hindi II

B. Protease

C. Dnase l

D. Rnase

Answer: A

13. The taq polymerase enzyme is obtained from

A. Thermus aquaticus

B. Thiobacillus ferroxidans

C. Bacillus subtilis

D. Pseudomonas putida

Answer: A

14. Which of the following is not a feature of the plasmids ?

A. Independent replication

B. Circular structure

C. Transferable

D. Single-stranded

Answer: D

15. The DNA molecule to which the gene of interst is integrated for cloning is called

A. vector

B. Template

C. Carrier

D. Transformer

Answer: A

16. The cutting of DNA at specific locations

became possible with the discovery of

A. Probes

B. Selectable marker

C. Ligases

D. Restriction enzymes

Answer: D

17. Which vector can clone only a small fragment of DNA ?

A. Cosmid

B. Bacterial artificial chromosome

C. Yeast artificial chromosome

D. Plasmid

Answer: D

18. DNA fragments generated by restriction endonucleases in a chemical reaction can be separated by

A. Restriction mapping

B. Centrifugation

C. Polymerase chain reaction

D. Electrophoresis

Answer: D

19. The colonies of recombinant bacteria appear white in contrast to blue colonies of non-recombinant bacteria because of A. Inactivation of glycosidase enzyme in recombinant bacteria B. Non-recombinant bacteria containing betaglactosidase C. Insertional inactivation of alphagalactosidase in non-recombinant bacteria

D. Insertional inactivation of alpha-

galactosidase in recombinant bacteria

Answer: D

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20. Which one of the following represents a

palindromic sequence in DNA?

A. 5'-GAATTC-3'

3'-CTTAAG-5'

B. 5'-CCAATG-3'

3'-CAATCC-5'

C. 5'-CATTAG-3'

3'-GATAAC-5'

D. 5'-GATACC-3'

3'-CCTAAG-5'

Answer: A

21. The figures below shows three steps (A,B,C) of polymerase chain reaction (PCR). Select the right one



A. B-Denaturation at a temperature of about $98^{\circ}C$ separating the two DNA strands

B. A-Denaturation at a temperature of

about $50^\circ C$

C. C-Extension in the presence of heat

stable DNA polymerase

D. A-Annealing with two sets of primers

Answer: A

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22. Biolistics (gene-gun) is suitable for

A. Disarming pathogen vectors

B. Transformation of plant cells

C. Construction recombinant DNA by

joining with vectors

D. DNA fingerprinting

Answer: B

23. For transformation, micro-particles coated with DNA to be bombarded from gene gun are made up of

A. Gold or Tungsten

B. Silver or Platinum

C. Platinum of Zinc

D. Silicon or Platinum

Answer: A

24. PCR and restriction Fragements length Polymorphism are the methods for

- A. Genetic Fingerprinting
- B. Sudy of enzymes
- C. Genetic transformation
- D. DNA sequencing

Answer: A

25. The figure below is the diagrammatic representation of the E.coli vector pBr 322. which one of the given options correctly identifies its certain component (s)



A. amp^R , tet^R -antibiotic resistance genes

B. ori-original restriction enzyme

C. rop-reduced osmotic pressure

D. Hindi III, Eco RI-selectable markers

Answer: A

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26. which one of the following is a case of wrong matching?

A. Callus-Un	organised	mass	of	cell
produced in tissue culture				
B. Somatic hybridisation-fusion of two				two
diverse cells				
C. Vector DNA-Site for t-RNA synthesis				
D. Micropropagation-In vitro production of				

plants in large numbers

Answer: C

27. There is a restriction endonuclease called

EcoRI. What does 'co' part in it stand for?

A. coli

B. colon

C. Coelorn

D. Coenzyme

Answer: A

28. Which technique made it possible to genetically engineer living organisms ?

A. Heavier isotope labeling

B. Hybridisation

C. Recombinant DNA techniques

D. X-ray diffraction

Answer: C

29. Given below is a sample of a portion of DNA strand giving the base sequence on the opposite strands. What is so special shown in it



A. Start codon at the 5' end

- B. Palindromic sequence of base pairs
- C. Replication completed
- D. Deletion mutation





30. Agarose extracted from sea weeds finds use in

A. Gel electrophoresis

- B. Spectrophotometry
- C. Tissue culture

D. PCR





31. Which one of the following is not a biofertiliser ?

A. Mycorrhiza

B. Agrobacterium

C. Rhizobium

D. Nostos





32. DNA or RNA segment tagged with a radioactive molecule is called :

A. Probe

B. Clone

C. Plasmid

D. Vector





33. Stirred-tank bioreactors have been designed for

A. Purification of the product

B. Ensuring anaerobic conditions in the

culture vessel

C. Availability of oxygen throughout the

process

D. Addition of preservatives to the product

Answer: C

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34. Which one of the following is used as vector for cloning into higher organisms ?

A. Salmonella typhimurium

- B. Rhizopus nigricans
- C. Retrovirus
- D. Baculovirus

Answer: C

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35. Which can be used as vector for transfer of

DNA segment

(a). bacterium (b). Plasmid (c) plasmodium (d)

bacteriophage

A. A,B andD

B. A only

C. A and C

D. B and D

Answer: D

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36. Which is used in gene cloning?

A. Lomasomes

- B. Mesosomes
- C. Plasmids
- D. Nucleotides

Answer: C

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37. Transgenic plants are the ones:

A. Grown on rtificial mdium after

hybridisation in the field

B. Produced after protoplast fusion in

artificial medium

C. produced by somatic embryo on artificial

medium

D. Generated by introducing foreign DNA

into a cell and regenerating plant from

that cell

Answer: D

38. Restriction endonucleases

- A. Are used in genetic engineering
- B. Are used for in vitro DNA synthesis
- C. Are synthesised by bacteria as part of

their defense mechanism

D. Are present in mammalian cells for

degradation of DNA when the cell dies

Answer: C

39. Maximum application of animal cell culture technology today is in the production of:

A. Insulin

- B. Interfereons
- C. Vaccines
- D. Edible proteins

Answer: C

40. chromosomes in a bacterial cell can be 1-3

in number and :

A. Are always circular

B. Are always linear

C. Can be either circular or linear, but never

both within the same cell

D. Can be circular as well as linear within

the same cell







41. Change in the sequence of nucleotide in DNA is called as

A. Mutagen

B. Mutation

C. Recombinantion

D. Translation

Answer: B

42. Which of the following enzyme is used to join DNA fragments :

A. Ligase

B. terminase

C. DNA polymerase

D. Endonuclease

Answer: A

43. What is true of plasmid

A. Plasmids are widely used in gene transfer

- B. These are found in virus
- C. Plasmid contain gene for vital activities
- D. These are main part of nuclear

chromosome

Answer: A



44. Which of the following cuts the DNA from specific places :

A. Restriction endonuclease (EcoRI)

B. Ligase

C. Exonuclease

D. Alkaline phosphate

Answer: A

45. Maximum number of bases in plasmids is

A. 50 kilo base

B. 500 kilo base

C. 5000 kilo base

D. 50,000 kilo base

Answer: B

46. A mutant strain of T_4 – Bacteriophage, R-II, fails to lyse the E-Coli but when two strains $R - II^X$ and $R - II^Y$ are mixed then they lyse the E.Coli. What may be the possible reason : -

A. Bacteriophage transforms in wild

B. It is not mutated

C. Both strains have similar cistrons

D. Both strains have different cistons

Answer: D



47. The bacteria generally used for genetic engineering is:

A. Agrobacterium

B. Bacillus

C. Pseudomonas

D. Clostridium







48. Plasmid has been used as vector because

A. It is circular DNA which have capacity to

join to eukaryotic DNA

B. It can move between prokaryotic and

eukaryotic cells

C. both ends show replication

D. It has has antibiotic resistance gene

Answer: A



- 49. Hybridoma is:-
 - A. Collection of DNA from DNA
 - B. Collection of RNA from DNA
 - C. A fusion of tumour sex cell with non-

tunour sex cell

D.A fusion of tumour somatic cell non-

tumour somatic cell





50. E. coli are used in production of:

A. Rifampicin

- B. LH
- C. Ecdyson
- D. Interferon





51. Knife of DNA :

A. DNA-ligase

B. Restriction endonuclease

C. Exonuclease

D. Peptiddase

Answer: B

52. Genetic engineering involves :

A. use of restriction endonuclease on

bacterial DNA and formation of new

traits

B. Use of ligase for cutting DNA

C. Developing instruments

D. Use of statistic in genetics

Answer: A

53. Which of the following most used in genetic engineering?

A. E. coil and Agrobacterium

B. Mycobacteria and Salmonella

C. Aspergillus

D. Penicillum

Answer: A

54. The restriction enzymes are used in genetic engineering because

A. They can cut DNA at specific base sequenceB. They are nucleases that cut DNA at

variable sites

C. They can degrade harmful proteins

D. They can join different DNA fragment

Answer: A



55. Which of the following organelles is releated with genetic engineering/gene cloning

A. Mitochondria

B. Plasmids

C. Golgi bodies

D. Lysomes

Answer: B

