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TARGET : NEET (UG) 2024

Course : SARANSH (Youtube Live CRASH COURSE)

BIOLOGY

DPP

DAILY PRACTICE PROBLEMS

DPP NO. 1

ZOOLOGY: Biotechnology : Principles and Processes

DPP No. : 1

1. A definition of biotechnology that encompasses both traditional view and modern view are given by
(1) European forum on Biotechnology
(2) European focus on Biotechnology
(3) European Federation of Biotechnology
(4) European Centre of Biotechnology

2. The main function of Restriction endonuclease
(1) To cut the DNA at the ends
(2) To anneal the cut DNA segments
(3) To cut the DNA at specific sites resulting sticky ends are formed
(4) To cut the DNA at the middle part

3. In EcoRI RY 13, E and co represent
(1) E= Endangered species, co = carbonmonooxide
(2) E = genus Escherichia, co = species coli
(3) E = Emigration, co = co-evolution
(4) E = Escherichia, co = Strain name

4. Which of the following is a method of gene transfer
(1) Microinjection (2) Particle gun
(3) Electroporation (4) All of these

5. Polymerase chain reaction is most useful in
(1) DNA synthesis (2) DNA amplification
(3) Protein synthesis (4) Amino acid synthesis

6. Gene gun or biolistic method is direct DNA transfer technique, In which before projected on target cell desired DNA is coated by
(1) Iron & silver (2) Silver & tungsten
(3) Copper & silver (4) Gold & tungsten.

7. Agarose extracted from sea weeds finds use in:
(1) Spectrophotometry (2) Tissue Culture
(3) PCR (4) Gel electrophoresis

8. In gel electrophoresis, the separated bands of DNA are cut from the agaros gel & extracted from the gel piece it is called
(1) Separation (2) Insertional inactivation
(3) Elution (4) Eluviation

9. In gel electrophoresis which of the following compound is used in the staining of DNA
(1) Methyl bromide
(2) Ethyle ethane sulphonate
(3) Ethedium bromide
(4) Ethyl bromide

10. Which of the following correctly depicts the recognition site for ***Eco*** R**I** ?

(1)
```
        ↓
G – A – A – T – T – C
C – T – T – A – A – G
        ↑
```

(2)
```
        ↓
G – T – C – G – A – C
C – A – G – C – T – G
        ↑
```

(3)
```
        ↓
G – T – C – G – A – C
C – A – G – C – T – G
        ↑
```

(4)
```
        ↓
G – A – A – T – T – C
C – T – T – A – A – G
        ↑
```

11. **ASSERTION :** Restriction enzymes cut the strand of DNA to produce sticky ends.
REASON : Stickiness of the ends facilitates the action of the enzyme DNA polymerase.
Read the **Assertion** and **Reason** carefully to mark the correct option out of the options given below:
(1) Both **Assertion** and **Reason** are true and the **Reason** is the correct explanation of the **Assertion**.
(2) Both **Assertion** and **Reason** are true but **Reason** is not the correct explanation of the **Assertion**.
(3) **Assertion** is true but **Reason** is false.
(4) Both **Assertion** and **Reason** are false

12. **ASSERTION :** The first discovered restriction endonuclease was Hind II.
REASON : Hind III was discovered earlier than Hind II.
Read the **Assertion** and **Reason** carefully to mark the correct option out of the options given below:
(1) Both **Assertion** and **Reason** are true and the **Reason** is the correct explanation of the **Assertion**.
(2) Both **Assertion** and **Reason** are true but **Reason** is not the correct explanation of the **Assertion**.
(3) **Assertion** is true but **Reason** is false.
(4) Both **Assertion** and **Reason** are false

13. What does the term 'competent' refer to in transformation experiments?
(1) Piece of DNA carrying desired gene
(2) Vector used to carry desired gene
(3) Cell in which desired gene is to be inserted
(4) Bacteria from which restriction endonuclease is to be obtained

14. The processes include ___A___ and ___B___, which are collectively referred to as downstream processing. Select the option which correctly fills A and B -
(1) A- Separation, B- Purification
(2) A- Creating recombinant DNA, B- Formation of recombinant protein
(3) A- Separation, B- packaging of product
(4) A- Selection of recombinant DNA, B- Separation of DNA.

15. Sticky ends facilitate action of which enzyme?
(1) DNA polymerase
(2) DNA ligase
(3) Restriction endonuclease
(4) Reverse transcriptase

16. The most important feature in a plasmid to be used as a vector is:

(1) Origin of replication (ori)

(2) Presence of a selectable marker

(3) Presence of sites for restriction endonuclease

(4) Its size

17. Principle benefit of using taq DNA polymerase in PCR is-

(1) Its accuracy level is very high

(2) It can be used for invitro replication of DNA

(3) It remain stable even at high temperature induced denaturation of DNA

(4) It can replicate RNA as well as DNA

18. Which of the following is an essential condition to produce a recombinant DNA molecule?

(1) The two strands of DNA which are to be joined should be palindrome

(2) The two strands of DNA which are to be joined should be cleaved by same restriction endonuclease

(3) The two strands of DNA which are to be joined should be joined by separate DNA ligase enzymes

(4) The two strands of DNA which are to be joined should be from prokaryotes only.

19. What is true for plasmid

(1) Found in viruses

(2) Contains genes for vital activities

(3) Part of nuclear chromosome

(4) Widely used in gene transfer

20. **Assertion :** DNA ligase joins two DNA chains.

Reason : DNA ligase catalyzes the formation of phosphodiester bonds between two chains.

(1) Both assertion and reason are true but reason is the correct explanation of assertion.

(2) Both assertion and reason are true but reason is not the correct explanation of assertion.

(3) Assertion is true but reason is false.

(4) Both assertion and reason are false