BIOLOGY

NEET & AIIMS

Mock Test 39 : ZOOLOGY

Example

1. Which of the following is called molecular scissors in context of biotechnology?

A. DNA ligase

B. Restriction exonucleases

C. DNA polymerase

D. Restriction endonucleases

Answer: D

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2. Which of the following two core techniques enabled birth of modern biotechnology? (a) Genetic engineering (b) Electrophoresis (c)

Maintenance of sterile ambience in chemical engineering processes (d) Development of competent hosts

A. (a) and (b)

B. (a) and (c)

C. (b) and (d)

D. (b) and (c)

Answer: B

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3. A scientist performed studies on a couple of restriction enzymes of E.coli bacterium that produced DNA with sticky ends. This scientist was

A. Herbert Boyer

B. Stanley Cohen

C. Boyer and Cohen

D. Chain and Florey

Answer: A

4. Who develop a method of removing plasmids from the cell and then reinserting them in other cells ?

A. Herbert Boyer and Cohen

B. Alexander Fleming

C. Stanley Cohen

D. Herbert Boyer

Answer: C

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5. What is recombinant DNA?

A. DNA in which RNA is integrated

B. DNA which is obtained by transcription of RNA

C. DNA which is inserted into a newly reconstructed cell

D. DNA which contains alien genes i.e. genes from more than one source

organism

Answer: D

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6. If a piece of DNA in transferred into alien organism, what will happen?

A. Most likely this piece of DNA will multiply itself on its own and is transferred into progeny cells of the organism

B. Most likely this piece of DNA will not be able to multiply itself in the progeny cells of the organism

C. It multiplies when gets integrated into the genome of the recipient at ori but is not transferred into progeny cells of the organism

D. It will multiply itself after some food is added in the alien cell

Answer: B

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7. Choose the correct statement.

A. Restriction enzymes are hydrolytic enzymes

B. Restriction enzymes promote virus infection in bacteria cells

C. DNA ligase can be obtained from all prokaryotes

D. Only one restriction enzymes can be isolated from one eukaryotic organism

Answer: A

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8. Which of the following is not a tool of recombinant DNA technology?

A. Restriction enzymes

B. Cloning vectors

C. Competent host

D. Recombinant proteins

Answer: D

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9. Choose incorrect match amongst restriction enzymes listed in column I and type of ends produced in column II

A. Column I - EcoR I and Column II - Sticky end

B. Column I - Hind III and Column II - Sticky end

C. Column I - Sma I and Column II - Blunt end

D. Column I - Bam HI and Column II - Flush end

Answer: D

10. Read the following statements and choose the option with incorrect statements. (a) Restriction enzymes are obtained from prokaryotes. (b) Restriction endonucleases cut DNA strands by breaking hydrogen bonds at specific points. (c) More than 230 restriction enzymes have been isolated from more than 900 strains of bacteria. (d) Each restriction enzyme recognizes a specific palindromic nucleotide sequence in DNA.

A. (a) and (b)

B. (b) and (c)

C. (c) and (d)

D. (a) and (d)

Answer: B

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11. Which of the following is incorrect?

A. Both bacteriophages and plasmids can be used as cloning vectors

B. Bacteriophages have high copy numbers of their genome within bacterial cell

C. Cloning vectors must have an Ori and MCS region

D. A good cloning vector definitely contains more than one recognition site for the restriction enzyme to be used

Answer: D

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12. Read the following five statements in context of a plasmid. (a) Its DNA is always double stranded. (b) Its DNA is naked and without histone proteins. (c) Its DNA can replicate independent of genomic DNA. (d) Both exons and introns are present in plasmid DNA. (e) Plasmid DNA can be either linear or circular. Which of the above given statements are incorrect?

A. (a) and (e)

B. (c) and (e)

C. (a), (b) and (c)

D. (d) and (e)

Answer: D

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13. If you can ligate foreign DNA at the BamHI site in the vector pBR322, which of the following will occur?

A. The recombinant plasmid will lose the ability to confer ampicillin resistance to the host bacteria

B. Bacteria containing recombinant pBR322 are unable to grow in tetracycline containing medium

C. Bacteria with recombinant plasmid will lose resistance to both tetracycline and ampicillin

D. Recombinant bacteria grow in tetracycline containing medium but are unable to grow in ampicillin rich medium

Answer: B

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14. Choose the mismatched pair from given options.

A. Insertional inactivation - beta-galactosidase

B. YAC vector - Yeast artificial chromosome

C. BAC vector - Largest bacteriophage vector

D. Ti plasmid - Agrobacterium tumefaciens

Answer: C

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15. Which of the following can prove useful as a vector in both a prokaryote and eukaryote?

A. YEp

B. Cosmid

C. Adenovirus

D. Retrovirus

Answer: A

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16. Match column I with II and choose the correct option from given code

	Column-I		Column-II
a.	*BamHI*	(i)	rop site
b.	*Pst* I	(ii)	Tet^R
c.	*Pvu* II	(iii)	Amp^R
d.	LacZ	(iv)	β-galactosidase

A. a(i), b(ii), c(iii), d(iv)

B. a(ii), b(i), c(iii), d(iv)

C. a(ii), b(iii), c(iv), d(i)

D. a(ii), b(iii), c(i), d(iv)

Answer: D

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