SECTION A: TOPICWISE QUESTIONS

TOPIC 1: Principles of Biotechnology

1. The techniques of using live organisms or enzymes from organisms to produce products and process useful to humans are called

(A)Biopiracy

(B) Biotechnology

(C)Bioprospecting

(D)Biomagnification

2. The EFB stands for

(A)European Forum of biotechnology

(B)Engineering Federation of biotechnology

(C)European Function on biotechnology

(D) Europe Federation of biotechnology

3. The FEB has given a definition of biotechnology that encompasses both traditional view and modern molecular biotechnology. The definition given by EFB is as follows

(A)The use of bio-resources by multinational companies and other organization without proper authorization from the countries and people concerned without compensatory payment.

(B)'The integration of natural science and organisms, cells, parts, thereof, and molecular analogues for products and services.'

(C)Industrial scale production of biopharmaceuticals and biological using genetically modified microbes, fungi, plants and animals.

(D)Techniques to alter the chemistry of genetic material (DNA and RNA), to introduce these into host organisms and thus change the phenotype of the host organism.

4. The core technique that enabled the birth of modern biotechnology is

(A)Genetic engineering

(B)Maintenance of sterile ambience in chemical engineering processes to enable growth of only the desired microbe/eukaryotic cell in large quantities for the manufacture of biotechnological products like antibiotics, vaccines, enzymes, etc.

(C) Both A and B

(D)None of the above

5. The technique of genetic engineering include

(A)Creation of recombinant DNA

(B)Gene cloning

(C)Gene transfer

(D) All of the above

6. If an alien DNA is linked with the origin of replication, this alien piece of DNA can replicate and multiply itself in the host organism. This can be called as

(A)Cloning

(B)Making multiple identical copies of any template DNA

(C)Splicing

(D) Both A and B

7. There are three basic steps in genetically modify organism. Arrange these steps in correct sequence.

a.Introduction of the identified DNA into the host.

b.Maintenance of introduced DNA in the host and transfer of the DNA to its progeny.

c.Identification of DNA with desirable genes.

(A)a → b → c (B)b → c → a

(C)c → b → a **(D)**c → a → b

8. All human knowledge especially natural sciences were directed to develop technologies which add to the comforts to human life, since the days of

(A)Herber boyer (20th Century)

(B)Boyer and Cohen (19th Century)

(C)Rene Descartes (18th Century)

(D) Rene Descartes (17th Century)

9. Which of the following is a biotechnological process?

(A)IVF leading to 'test tube' baby

(B)Developing a DNA vaccine

(C)Synthesising a gene and using it

(D) All of the above

10. First recombinant DNA constructed in the year

(A)1963 (B)1974

(C)1981 **(D)**1972

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

(A)Herbert Boyer **(B)**Stanley Cohen

(C)Cohen and Boyer (D)Karry Mullis

12. Biotechnology is

(A)Application of biological organism to study evolutionary changes

(B)A science of producing organism by culturing bacteria

(C) Application of organism to produce products useful to the mankind

(D)All of the above

13. A technique of deliberate manipulation of genes/transfer of gene to a different organism is

(A)Gene therapy

(B)Tissue culture

(C)Hybridoma technology

(D) Genetic engineering

14. Construction of first recombinant DNA was done by using plasmid of

(A)*Salmonella typhimurium*

(B)*Escherichia coli*

(C)*Bacillus thuringiensis*

(D)Yeast

15. Recombinant DNA or rDNA technology was discovered by

(A)Khorana

(B)Bateson and de Vries

(C)Sutton and Avery

(D) Cohen and Boyer

16. Advancement in genetic engineering has been possible due to discovery of

(A)Oncogenes

(B)Transposons

(C) Restriction endonuclease

(D)Exonucleases

17. Genetic engineering is

(A)Making artificial genes

(B) Hybridisatin of DNA

(C)Making artificial limbs and diagnostic instruments

(D)Production of alcohol by using microorganisms

18. Introudction of foreign gene for improving genotype is

(A)Tissue culture

(B) Genetic engineering

(C)Biotechnology

(D)Vernalisation

19. Removal and insertion of genes is

(A) Genetic engineering

(B)Biotechnology

(C)Gene therapy

(D)Cytogenetics

20. Genetic engineering is

(A)Plastic energy

(B) Addition or removal of genes

(C)Study of extra nuclear genes

(D)All the above

TOPIC 2: Tools of Recombinant DNA Technology

Restriction Enzymes, Cloning Vectors and Competent Host (For Transformation with Recombinant DNA)

21. Among the following, select the tools of recombinant DNA technology

a.Restriction enzymes

b.Polymerase enzymes

c.Ligases

d.Vectors

e.Host organisms

(A)a, b, c, d and e

(B)a, c, d, and e

(C)a, b, c and d

(D)a, b, c and e

22. In the year …….a……. the two enzymes responsible for …..b….. the growth of bacteriophage in*E. Coli* were isolated. One of these added ….c….. group to DNA, while other …..d….. DNA. The later was called ….e….

(A)a—1967, b—promoting, c—ethyl, d—join, e—DNA ligase

(B)a—1963, b—restricting, c—methyl, d—join,e—DNA ligase

(C)a—1972, b—restricting, c—methyl, d—cut, e—restriction endonuclease

(D)a—1963, b—restricting, c—methyl, d—cut, e—restriction endonuclease

23. In restriction enzymes (like EcoR I the Roman numbers following the names indicate the:

(A)Order in which the enzyme were discovered from that strain of bacteria.

(B) Order in which the enzyme isolated from the strain of bacteria.

(C)Genus of the prokaryotic cell or bacteria.

(D)Strain of the bacteria.

24. EcoR I cut the DNA between the bases

(A)G and T only

(B)G and C only

(C)A and T only

(D)G and A only

25. Type of sticky and produced by the action of the EcoRI is

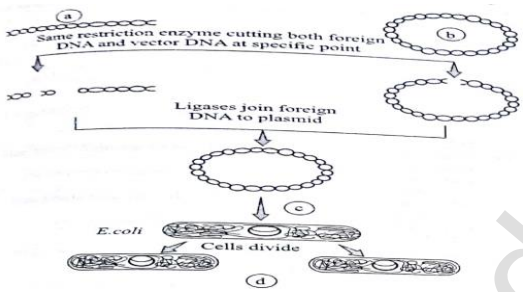
(A)GAATTC

(B)CTTAA

(C)AATTC

(D)TTAA

26. Recognise the figure and find out the correct matching.



(A)a—foreign DNA, b—vector DNA, c—translation, d—PCR

(B)a—vector DNA, b—foreign DNA, c—transduction, d—electrophoresis

(C)a—foreign DNA, b—vector DNA, c—transformation, d—rDNA technology

(D)a—vector DNA, b—foreign DNA, c—transformation, d—rDNA technology

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

(A) Origin of replication

(B)Presence of sites for restriction endonuclease

(C)Presence of selectable marker

(D)Presence of alternate selectable maker

28. In vector pBR 322, the 'rop' codes for the

(A)Pvu II

(B)Pvu I

(C)Proteins that involved in the replication of the restriction enzyme

(D) Proteins that involved in the replication of the plasmid

29. Alternate selectable maker have ability to differentiate recombinants from non-recombinants due to the

(A)Inactivation of the recombinants DNA

(B)Inactivation of the enzyme B-glactosidase

(C)Insertional inactivation

(D) Both B and C

30. Which of the following features are required to facilitate cloning into a vector?

a.Origin of replication (ori) b.Selectable marker

c.Cloning site

(A)a and b (B)b and c

(C)a and c **(D)**a, b and c

31. Which of the following are considered as useful selectable markers for *E.coli*?

a.Ampicillin resistance gene

b.Chloramphenicol resistance gene

c.Tetracycline resistance gene

d.Kanamycin resistance gene

(A)a only (B)a and b

(C)a, b and c **(D)**a, b, c and d

32. The procedure through which a piece of DNA is introduced in a host bacterium is called

(A)Translation (B)Transcription

(C) Transformation (D)Transclation

33. DNA is stained by

(A)Ethidium dibromide **(B)**Ethidium bromide

(C)Ethylene bromide (D)Methylene bromide

34. Which is the palindromic sequence?

(i)GAATTC (ii)AGGCCT (iii)CAGTCG

CTTAAG TCCGGA GTCAGC

(A)i, ii and iii **(B)**i and ii

(C)i only (D)i and iii

35. DNA fragments cut by restriction enzyme can be separated by

(A)PCR

(B)ELISA

(C) Agarose gel electrophoresis

(D)Downstream processing

36. Read the following statements and find out the incorrect statement.

(i)Now-a-days the most commonly used matrix is agarose which is a synthetic polymer extracted from sea weeds.

(ii)Larger the fragment size, the farther it moves.

(iii)We can not see pure DNA in UV light without staining

(iv)DNA fragments separate (resolve) according to their size through sieving effect provide by the agarose gel.

(A)i, ii and iii (B)ii, iii and iv

(C)iii and iv **(D)**i and ii

37. Which of the following bacteria is not a source of restriction endonuclease?

(A)*Agrobaxcterium tumefaciens*

(B)*Bacillus amayloli*

(C)*Haemophilus influence*

(D)*Escherichia coli*

38. An antibiotic resistance is incorrect regarding to restriction endonuclease enzyme?

(A) Transformed cells

(B)Non-transformed cells

(C)Competent cells

(D)Non-recombinant cells

39. Which statement is incorrect regarding to restriction endonuclease enzyme?

(A)It belongs to the class of nuclease

(B) It is isolated from virs

(C)It recognizes a palindromic nucleotide sequence

(D)It produces the same kind of sticky ends indifferent DNA molecus

40. Some foreign DNA fragment is attached to Cla I site of pBR 322. This recombinant vector in used to transition *Escherichia coli*. Then on two different media, one containing ampicillin and the other containing tetracycline. The transformed cells containing the recombinant vector will

(A) Grow on both, tetracycline and ampicillin containing media

(B)Not grow on either tetracycline containing or ampicillin containing medial

(C)Grow on tetracycline but not on ampicillin containing medium

(D)Grow on ampicillin but not on tetracycline containing medium

41. Selective markers in plasmids are used to

(A)Identify cancer cells

(B)Identify antibiotics

(C) Identify recombinants from non-recombinants

(D)None of these

42. The enzyme which catalyses the removal of nucleotides from the ends of DNA is

(A)Endonuclease

(B) Exonuclease

(C)DNA ligase

(D)DNA polymerase/Hind II/EcoR I

43. BamH I site in present at

(A)amp^R **(B)**tet^R

(C)Ori (D)rop

44. Selectable markers are present in

(A) Vector

(B)Host

(C)Antibiotic resistance gene

(D)Antibiotics

45. In pBR 322 amp^R and tet^R genes are present. When are ligate a foreign DNA at Pst-I site, then recombinant plasmids will lose the resistance to the

(A) Ampicillin (B)Tetracycline

(C)Both (D)None

46. DNA staining is followed by the exposure of UV rays Now DNA is seen as band of

(A)Blue colour **(B)**Orange colour

(C)Red colour (D)Both B and C

47. Which is responsible for controlling the copy number of the linked DNA in plasmid?

(A)Cloning sites

(B) Ori

(C)Restriction endonuclease

(D)Insertional inactivation

48. The word restriation in restriction enzyme refers to

(A)Cutting of DNA at specific position only

(B)Cleaving of phosphodiester linkage

(C) Prevention of the multiplication of bacteriophage in bacteria

(D)All of the above

49. The role of DNA ligase in the construction of a recombinant DNA molecule is

(A) Formation of phosphodiester bond between two DNA fragments

(B)Formation of hydrogen bonds between sticky ends of DNA fragments

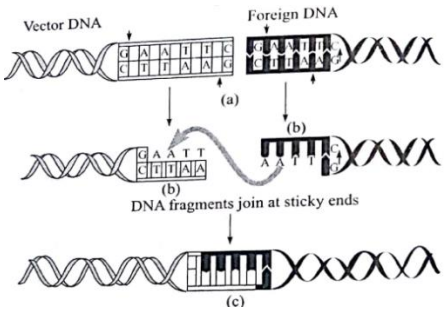
(C)Ligation of all purine and pyrimidine bases

(D)All of the above

50. Recognise the figure and find out the correct matching.

Action of Restriction enzyme

The enzyme cuts both DNA stands at the same site	Eco RI cuts the DNA between bases G and A only when the sequence GAATTC is present in the DNA



(A)a—Hind II, b—blunt end, c—non recombinant DNA

(B)a—BamH I, b—sticky end, c—recombinant DNA

(C)a—EcoR I, b—sticky end, c—non recombinant DNA

(D)a—EcoR I, b—sticky end, c—recombinant DNA

51. Genetic engineering has been made possible due to

(A)Observation of DNA under electron microscope

(B)We can DNA at specific points by DNA-areas

(C) Available of restriction endonucleases in purified form

(D)Knowledge of transduction

52. Plasmids are used in genetic engineering because they are

(A)Easily available

(B) Able to replicate

(C)Able to integrate with host chromosome

(D)Inert

53. Which statement is incorrect?

(A) Recognition sequence is made up of 6 bases

(B)Recognition sites are present in cloning vector

(C)In gene-gun plant cell are bombarded with high velocity micro-particles of gold or tungsten

(D)*Agrobacterium tumifaciens* is a pathogen of several dicot plants

54. Which of the following is plasmid?

(A)Hind II **(B)**pBR 322

(C)EcoR I (D)Both A and C.

55. The genes for antibiotic resistance are found I n

(A)Nucleus (B)Chromosome

(C) Plasmid (D)Cell membrane

56. If a recombinant DNA is inserted within the coding sequence of β-galactosidase enzyme, then

(A)Recombinant colonies will give blue colour in presence of chromogenic substrate.

(B) Non-recombinant colonies will produce blue colour in presence of chromogenic substrate.

(C)Non-recombinant colonies will not produce colour due to insertional inactivation.

(D)Both recombinant and non-recombinant colours produce blue colure

57. In the *E. coli* cloning vector pBR 322, the number of selectable marker is

(A)4 (B)1

(C)2 (D)3

58. Due to difficulty in inactivation of antibiotics, alternate selectable markers developed to differentiate recombinants from non-recombinants on the basis of ability to

(A)Produce bright orange colour in the presence of a chromogenic substrate.

(B) Produce colour in the presence of a chromogenic substrate

(C)Produce blue colour colonies due to insertional inactivation

(D)All are correct

59. After the fragmentation by restriction enzyme, the fragments are separate according to their size, this is called

(A) Agarose gel electrophoresis

(B)PCR

(C)Sieving effect

(D)Spooling

60. In a chromosome there is a specific DNA sequence which is responsible for initiating replication is

(A)Palindromic nucleotide sequence

(B) Ori

(C)Promoter

(D)rop

61. The separated bands of DNA are cut out from the agarose gel and extracted from the gel piece. This step is called

(A)Electrophoresis (B)Resolution

(C) Elution (D)Spooling

62. Restriction enzymes belongs to a large class of the enzyme called

(A)Cellulase **(B)**Nuclease

(C)Chitinase (D)Polymerase

63. In pBR 322, how many recognition sites are present?

(A)8 (B)7

(C)3 (D)4

64. Presence of more than one recognition sites within the vector will

(A)Facilitates the gene cloning

(B)Facilitates the action of DNA ligase

(C)Facilitates the action of restriction enzyme

(D) Complicate the gene cloning

65. Stickness of the sticky ends of the DNA facilitates the

(A)Action of DNA ligase and these ends joined together laterally

(B) Action of DNA ligase and these ends joined together end-to-end

(C)Action of Taq polymerase

(D)Action of restriction enzyme

66. Ori is the some specific sequence in the vector pBR 322. Ori also has the recognition sequence for the restriction enzyme

(A)Pst I

(B)Pvu II

(C)Hind III

(D) None of the above

67. In pBR 322, recognition sequences, that are present on the same type of selectable maker

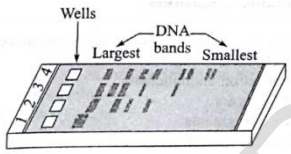
(A)Pst I, Pvu I

(B)Bam HI, Sal I

(C) Both

(D)None of the above

68. The following figure shows



(A)Ploymerase chain reaction

(B) Agarose gel electrophoresis

(C)Downstream processing

(D)Biolisstics or gene gun

69. Restictio endonucleases used widely in RDT are obtained from

(A)Plasmids

(B) Bacterial cells

(C)Bacteriophages

(D)All peokaryotic cells

70. Construction of recombinant DNA involves

(A)Cleaving and rejoining of DNA segments with endonuclease

(B) Cleaving DNA segments with endonuclease and rejoining with ligase

(C)Cleaving and rejoining DNA segments with ligase

(D)Cleaving DNA segments with ligase rejoining with endonuclease

71. Identify the vector suitable for cloning long DNA fragments.

(A)Phage vector

(B)Bacterial plasmid

(C)Yease plasmid

(D) Cosmids

72. Nucleic acid is fragmented by enzyme

(A)Ligases

(B)Proteases

(C) Nucleases

(D)Polymerases

73. T*i* plasmid transforms cells of

(A)Animals

(B) Plants

(C)Bacteria

(D)Fungi

74. Restriction endonucleases are

(A)Used in genetic engineering for uniting two DNA molecules

(B)Used for *in vitro* DNA synthesis

(C)Present in mammalian cells for degeneration of DNA of dead cells

(D) Synthesised by bacteria for their defence

75. Plasmids are used as vectors in genetic engineering because of their

(A)Resistance to antibiotics

(B)Resistance to restriction enzymes

(C) Ability to carry foreign genes

(D)Ability to cause infection in host

TOPIC 3: Processes of Recombinant DNA Technology

Isolation of the Genetic Material (DNA), Cutting of DNA at Specific Locations

76. A recombinant DNA molecule can be produced in the absence of the following

(A)Restriction endonuclease

(B)DNA ligase

(C)DNA fragments

(D)*E. coli*

77. Find the correct match for the breaking of the cell wall during isolation of genetic material in rDNA procedure.

(A) Cellulase—Plant cell (B)Lysozyme—Fungus

(C)Chitinase—Bacteria (D)All of the above

78. Recombinant DNA technology involves several steps in specific sequence. Find out the correct sequence.

a.Fragmentation of DNA

b.Culturing the host cells in a medium at large scale

c.Ligation of DNA fragment into a vector

d.Extraction of the desired product

e.Isolation of DNa

f.Isolation of desired DNA fragment

g.Transferring the recombinaut DNA into the host

(A)e → a → f → g → c → b → d

(B)e → f → a → c → g → b → d

(C)a → e → c → f → g → d → b

(D)e → a → f → c → g → b → d

79. The following figure shows:

(A)Elution

(B) Spooling

(C)Biolistics

(D)Downstream processing

80. While isolating DNA from the bacteria which of the following enzyme is not used

(A)Ribonuclease **(B)**Deoxyribonuclease

(C)Lysozyme (D)Protease

81. Purified DNA ultimately precipitate out after the addition of chilled ethanol. This DNA that separates out can be removed by

(A)Electorphoresis

(B)Downstream processing

(C)PCR

(D) Spooling

TOPIC 4: Amplification of Gene of Interest Using PCR

Insertion of Recombinant DNA into the Host Cell / Organism

82. Theraml cycle is used in

(A)Radioactivation

(B)Chemical reaction

(C) Polymerase chain reaction

(D)Enzyme catalysed reactions

83. In PCr, DNA is amplified about 10^9 times, when cycle is repeated by

(A)30 times (B)1 time

(C)1 billion times (D)1 million time

84. DNA is a ….1….. molecule having ……2……. Charge.

(A)1—Hydrophobic, 2—negative

(B)1—Hydrophilic, 2—positive

(C)1—Hydrophilic, 2—negative

(D)1—Hydrophobic, 2—positive

85. Which is used for the introduction of alien DNA into the animal cell?

(A)*Agrobacterium tumifaciens*

(B) Retroviruses

(C)Biolistics

(D)Both B and C

86. Which has the ability to transform normal cells into cancerous cell?

(A)Ti plasmid (B)Retrovirus

(C)*E.coli* **(D)**Both A and B

87. Which is used as a cloning vector into plants?

(A)Micro-injection (B)retroviruses

(C) Ti plasmid (D)Both A and B

88. Heat shock is

(A)Given at 42℃.

(B)A step of the process that enables linking of alien DNA to the plasmid.

(C)A step of the process that enables introduction of alien DNA into the host cells.

(D) Both A and C

89. Which of the following steps are catalysed by taq polymerase in a PCR?

(A)Annealing of primers to template DNA

(B)Denaturation of template DNA

(C) Extension of primer on the template DNA

(D)All of the above

90. Signature of the 'heat shock' in bacterial transformation is to facilitate

(A)Expression of the antibiotic resistance gene in the vector

(B)Ligation of DNA to the cell membrane

(C)Uptake the DNA through membrane transport protein

(D) Uptake of DNA through pores in the bacterial cell wall

91. Small chemically synthesised oligonucleotides that are complementary to the regions of DNA are called primers and present at the …….. .

(A)5' end **(B)**3'

(C)Bothe 3' and 5' end (D) None of the above

92. Which of the following has popularised PCR?

(A) Availability of Taq polymerase which is thermally stable

(B)Availability of deopxyribonucleotides

(C)Availability of synthetic primers

(D)All of the above

93. Select the correct statement.

(A)If any protein encoding gene is expressed in a homologous host, it is called a recombinant protein.

(B)In PCR, the multiple copies of gene of interest is synthesised *in vitro* using one set of primers.

(C)A thermostable (Taq polymerase) is obtained from cyanobacterium *Thermus aquaticus.*

(D) None of the above.

94. Select the correct statement.

(A) Agarose gel electrophoresis is used to check the progression of a restriction enzyme digestion

(B)DNA is negatively charged and lipophilic in nature,

(C)*Agrobacterum* and Retrovirus both transforms

(D)Both A and C.

95. Read the following statements.

(i)Primers used in PCR are small chemcially synthesised oligosaccharides.

(ii)*E. coli* is closely related to *Salmonella.*

(iii)There are 3 basic steps in genetically modifying an organism.

(iv)The tecniques of the genetic engineering overcome the limitation of traditionl hybridisation procedures.

In these statements how many are correct?

(A)4 **(B)**3

(C)1 (D)2

96. DNA polymerase enzyme used in PCR is isolated from

(A)*Thermus aquaticus*

(B)*E.coli*

(C)*Salmonella typhimurium*

(D)None of the above

97. Therostable enzymes 'Taq and Pfu' isolated from thermophilic bacteria are

(A)DNA polymerases

(B)DNA ligases

(C)Restriction endonucleases

(D)RNA polymerases

98. Which is correctly matched?

(A)*Agrobacterium tumefaciens* —Tumour

(B)*p*BR 322 — Bt gene

(C)*Thermus aquaticusa* — Bt gene

(D)Ligase — Molecular scissors

(E)Hind II — Plasmid vector

99. Gene amplification using primers can be done by

(A)Microinjection

(B)ELISA

(C) Polymerase chain reaction

(D)Gene gun

100. PCR proceeds in three district steps governed by temperature. They are in order of

(A)Denaturation, synthesis, annealing

(B)Annealing, synthesis, denaturation

(C)Synthesis, annealing, denaturation

(D) Denaturation, annealing, synthesis

101. Enzyme required for polymerase chain reaction (PCR) is

(A)RNA polymerase

(B)Ribonuclease

(C) Taq polymerase

(D)Endonuclease

102. PCR technique was invented by

(A)Boyer

(B) Karry Mullis

(C)Cohn

(D)Sanger

103. Source of Taq polymerase used in PCR is a

(A)Thermophilic fungus (B)Mesophilic fungus

(C) Thermophilic bacterium (D)Halophilic bacterium

104. Polymerase chain reaction employs

(A)Primers and DNA ligase

(B)DNA ligase only

(C)DNA polymerase only

(D) Primers and DNA polymerase

105. Polymerase chain reaction is useful in

(A)DNA synthesis **(B)**DNA amplification

(C)Protein synthesis (D)Amino acid synthesis

TOPIC 5: Obtain the Foreign Gene Product

Downstream Processing

106. Which is correct regarding genetically engineered insulin using *E.coli*?

(A)Difficult to purify

(B) Obtained in large unlimited quantities

(C)Possibility of transmission of animal diseases

(D)Insulin obtained varies in chemical structure

107. Bioreactors are useful in

(A)Separation and purification of a product

(B)Microinjection

(C) Processing of large volume of culture

(D)Isolation of genetic material

108. A typical bioreactor has

a.An agitator system

b.An oxygen delivery system

c.A foam control system

d.A temperature control system

e.A pH control system

f.Sampling ports

(A)a, b and c

(B)a, b, c and d

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

(D)a, b, c, d, e and f

109. After the biosynthetic phage, the product is separated and purified by the process called

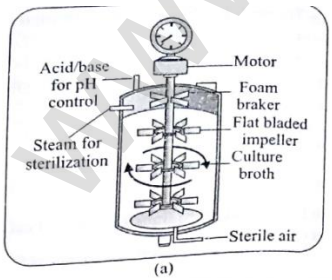
(A)Agarose gel electrophoresis

(B)PCR

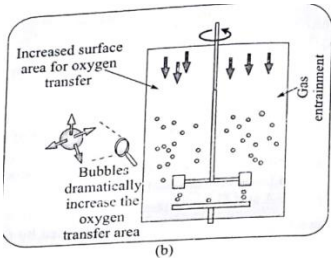
(C) Downstream

(D)Insertional inactivation

110. Recognise the figure and find out the correct matching.



(a)



(A)a—simple stirred tank bioreactor, b—complex stirred tank bioreactor

(B)a—complex stirred tank bioreactor, b—simple stirred tank bioreactor

(C)a—simple stirred tank bioreactor, b—sparged stirred tank bioreactor

(D)a—sparged stirred tank bioreactor, b—simple stirred tank bioreactor

111. For large scale production of recombinant product the most commonly used bioreactors are of

(A)Simple type

(B) Stirring type

(C)Both A and B

(D)None of the above

112. Which of the following would be chosen for best yield if we want to produce a recombinant protein in large amounts?

(A)A continuous culture system

(B)A laboratory flask of large capacity

(C)A bioreactor without ports

(D)Any of the above

113. A stirred-tank bioreactor is usually cylindrical or with a curved base to facilitate the

(A) Mixing of the reactor contents

(B)Control the temperature of the reactor

(C)Control the pH of the reactor

(D)All of the above

114. Select the incorrect statement.

(A)A foreign DNA can be ligated at the BamH-I site of ampicillin resistance gene in the vector pBR 322.

(B)Some plasmids may have only one or 2 copies per cell whereas others may have 15-100 copies per cell.

(C)In almost all recombinant technologies, the ultimate aim is to produce a desirable protein.

(D)All of the above.