BIOLOGY

BOOKS - CENGAGE BIOLOGY (HINGLISH)

BIOTECHNOLOGY AND ITS APPLICATIONS

Exercises Choose The Correct Options

1. Which one of the following can be used as a permanent ewe for ADA deficiency?

A. Bone marrow transplantation on detecion of disorder

B. Enzyme replacement therapy at any point in life

C. Both (1) and (2)

D. Gene theryap at early embryonic stages.

Answer: D

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2. Which one of the following is a transgenic product useful for treatment of Haemophilia?

A. Factor VIII

B. Antithrombin II

C. α-1- antitrypsim

D. Lysostaphin

Answer: A

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3. Who is responsible for obtaining interferons through recombinant DNA technique?

A. A.R.Bounting

B. Eli Lily

C. Charles Weissmann

D. A. Tiselius

Answer: C

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4. Select the correct statement:

A. RNAi silecing takes place in all eukaryotic organisms as method of cellular defense.

B. RNAi requires silencing of mRNA by binding of complementary ssDNA molecule.

C. Complementary nucleic acid could be from mobile gentic elements (transposons).

D. Ti plasmid with nematode-specific genes has been used in RNAi.

Answer: B

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5. Which gene controls transcription of chain A and chain B required for humulin synthesis in E. coli?

A. β- Lactamase

B. β-Galactosidase

C. Polygalacturonase

D. Chitinase

Answer: B

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6. Transgenic Brassica napus has been used for the synthesis of:

A. Hirudin

B. Herparin

C. Polgalacturonase

D. Cry protein

Answer: A

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7. Which genes encode the protein to control bollworms infection in cotton plants?

A. Cry II Ab

B. Cry I Ac

C. Both (1) and (2)

D. Amp^r

Answer: C

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8. Which is incorret with respect to GM food?

A. It contains the protein produced by the transgene inquestion .

B. GM food contains antibiotic resistance gene itself.

C. The enzyme produced by antibiotic resistance gene will not cause allergies.

D. The bacteria in gut of humans could take by antibiotic resistance gene.

Answer: C

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9. Golden rice - a transgenic variety of rice - is principlly richer than normal rice in

A. Cry I Ab

B. Hirudin

C. TPA

D. β- carotene

Answer: D

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10. Southern blotting cannot be performed without

A. Restriction endonucleases

B. Agarose

C. Monoclonal antibodies

D. Both (1) and (2)

Answer: D

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11. Plants, bacteria, fungi, and animals whose genes have been altered by manipulated are called genetically modified organisms (GMO). Which of the following statement is not applicable to GM plants?

A. Reduced reliance on chemical pesticides

B. Prevent early exhaustion of fertility of soil.

C. Crops less tolerant to abiotic stress (cold, drought, salt, and heat).

D. Enhanced nutritional value of food.

Answer: C

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12. In the case of Bacillus thuringiensis , Bacillus itself is not killed by toxic protein crystals produced by it because

A. Bt toxin protein is not produced in Bacillus

B. Bt toxin protein is produced in very less amount in Bacillus

C. Bt toxin exists as inactive toxin

D. Bt toxin cannot cause any damage to Bacillus

Answer: C

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13. Bt toxin kills the insect by

A. Blocking nerve conduction

B. Damaging the surface of trachea

C. Creating pores in the tracheal system

D. Creating pores in the mid gut

Answer: D

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14. Which of the following cry gene codes for a protein which can control the cotton bollworms?

A. cry I Ac

B. Cry II Ab

C. Cry I Ab

D. cry II Ac

Answer: C

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15. RNA interference (RNAi) technique has been devised to protect the plants from the nematode. In this technique , mRNA, of

nematode, is silenced by _____

produced by the host plant :

A. dsDNA

B. ssDNA

C. dsRNA

D. Target proteins

Answer: C

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16. Which of the following peptide chain is removed during maturation of pro-insulin into insulin ?

A. A peptide

B. B peptide

C. Cpeptide

D. A and C peptides

Answer: C

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17. Eli Lilly, an American company prepared two DNA sequences corresponding to A and B, chains of human insulin, and introduced them in plasmids of E. Coli to produce insulin chains. Chains A and B were produced separately, extracted and combined by creating

A. Peptide bonds

B. Ionic bonds

C. H-bonds

D. Disulfide bonds

Answer: D

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18. The first clinical gene therapy was given in 1990 to a 4 years old with enzyme deficiency of

A. Adenosime deamine

B. Tryosime oxides

C. Monamine oxides

D. Glutamate dehydrogenase

Answer: A

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19. Which of the following could be a premanent cure for treatment of severe combined immunodeficiency (SCID)?

A. Bone marrow transplantation

B. Enzyme replacment therapy

C. Both (1) and (2)

D. Gene therapy

Answer: D

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20. Which of the following technique is being used to detect mutation in genes in suspected cancer patients?

A. PCR

B. ELISA

C. Blood analysis

D. PAGE

Answer:

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21. Animal that have had their DNA manipulated to possess and express an extra gene known as

A. Foreign animals

B. Superoir animals

C. Transgenic animals

D. Intergenic animls

Answer: C

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22. About 95% of all existing transgenic animals are _____ .

A. Rabbits

B. Pigs

C. Cows

D. Mice

Answer: D

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23. Today, transgenic models exist for many human diseases which includes.

A. Cancer .

B. Cystic fibrosis .

C. Rehumatiod arthrits

D. Alzheimer's diseases.

A. (A) and (C) only

B. (B) and (C) only

C. (A) and (B), and (C) only

D. All of these

Answer: D

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24. Which of the following is not a ture statement with respect to Bt cotton?

A. Bt toxin is produced by a bacterium Bacillus thuringiensis.

B. It is an example of biopesticide.

C. Bt toxin gene has been cloned in the plants to provide resistance to insects.

D. Bt cotton could decrease the amount of pesticde used.

Answer: C

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25. How many recombinant therapeutics have been approved for human use all over the world?

A. 12

B. 30

C. 20

D. 18

Answer: B

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26. Which of the following technique sever the purpose of early diagnosis?

A. Recombinat DNA technology

B. PCR

C.ELISA

A. (A) only

B. (A) and (C) only

C. (A) and (B) only

D. All of these

Answer: D

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27. Which of the following is based upon the principle of antigen - antibody interaction?

A. PCR

B. ELISA

C. Recombinant DNA technology

D. RNA interference

Answer: B

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28. Which of the following transgenic human protein product has been used to treat emphysema ?

A. α-1-Antitrypsin

B. α- Lactalbumin

C. Cry protein

D. C-peptide

Answer: A

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29. How many varieties of rice has been estimated to be present in India?

A. 2000

B. 20000

C. 2,00,000

D. 20,00,000

Answer: C

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30. Use of bio-resources by multinational companies and other organizations without proper authorization from the countries and people concerned without compensatory payment is known as

A. Bioethic

B. Biopiracy

C. Bioterror

D. Bioweapon

Answer: B

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31. Amongst the following, which characteristic feature is not applicable to Bt cotton?

A. Bt is the abbreviated term for botulinum toxin.

B. Such cotton is resistant to armyworms and beetles.

C. The toxin is activated in the body of the insect.

D. The toxin is coded by a gene called"cry".

Answer: A

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32. Which biotechnology conpany is crebited with the synthesis of genetically engineered human insulin for the first time?

A. Celera genomics

B. Cipla

C. Eli Lily

D. Ranabaxy

Answer: C

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33. The functional ADA cDNA can be introduced into the cells of the patient

receiving gene therapy by using a vector consituted by :

A. E. coli

B. Reovirus

C. Retrovirus

D. Agrobactreium

Answer: C

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34. Which variety of rice was patented by a U.S. company even though the highest number of varieties of this rice is found in india ?

A. Shamati Sonarn

B. Co-667

C. Basmati

D. Lerma Roja

Answer: C

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35. Which step has been taken by Government of India to cater to the requirement of patent terms and other emergency provisions in this regard ?

A. Biopiracy Act

B. Indian Patents Bill

C. RTI Act

D. Negotiable Instruments Act

Answer: B

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36. What is another term used for GMO (genetically modified organisms)?

A. Cybrid organism

B. Genomorphic organisms

C. Transgenic organisms

D. Conjoint twins

Answer: C

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37. Transgenic models can be used to investigate several human diseases such as

A. Alzheimer`s disease

B. Cystic fibrosis

C. Carcinoma

D. All of these

Answer: D

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38. Which GMO is now being developed in order to be used in testing the safety of polio vaccines before to be used in human ?

A. Transgenic sheep

B. Transgenic cow

C. Transgenic mice

D. Transgenic viruses

Answer: C

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39. Which method f cellular defence is common in almost all eukaryotic organisms ?

A. RNA interference

B. Reverse transcription

C. VNTR

D. Phagocytosis

Answer: A

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40. "Silencing" of mRNA molecule in order to contral the production of a harmful protein has been used in the protection of plants from

A. Nematodes

B. Beetles

C. Mosquitoes

D. Flies

Answer: A

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41. Mark the odd one with respect to the advantages of genetically modified plants:

A. Production of food with better nutritional valur.

B. Decrease in post harvest losses.

C. Decreased dependence on fertilizers.

D. Decreased usage of minerals

Answer: D

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42. In which disease has the advantages of genetice engineering still not been used as clinical cure?

A. Emphysema

B. Cystic fibrosis

C. Phenylketonuria

D. Anencephaly

Answer: D

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43. Which substance is tested in case of toxicity/safety testing using transgenic animals?

A. Chemicals

B. Pathogen

C. The amount of DNA in the cell

D. The amount of tolerable radiation levels of an organism

Answer: A

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44. Which step proved to be the main challenging obstacle in the production of human insulin by genetic engineering?

A. Removal of C-peptide from active insulin.

B. Getting insulin assembled into a mature from.

C. Addition of C-peptide tro pro-insulin.

D. Splitting A and B polypeptide chains.

Answer: B

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45. What is the disadvantage of using processed insulin (from pig pancreas) is diabetic patients?

A. It leads to hypercalcaemia.

B. It may cause allergic reactions.

C. It is expensive.

D. It can lead to mutation in human recipients.

Answer: B

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46. Why is repated transfusions of genetically engineered cells required in SCID patients?

A. The transfused cells have limited lifespan.

B. The introduced gene is mutated.

C. The enzyme required is degraded after 20 days of trensfusion.

D. Both (2) and (3).

Answer: A

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47. Which Indian plants have either been patented or attempts have been made to

patent them by western nations for their commercial use ?

A. Basmati rice

B. Turmeric

C. Neem

D. All of these have been targeted

Answer: D

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48. Why is usually insulin not administered orally to a diabetic patient?

A. Insulin is bitter in taste.

B. Insulin is a peptide.

C. Insulin will lead to a sudden decrease in blood sugar if given orally.

D. Insulin leads to peptic ulcer orally.

Answer: B

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49. Which technique would you expect to be completely curative in SCID ?

A. Gene therapy in adult stage.

B. Gene therapy in embroynic stage.

C. Bone marrow transplantation.

D. Enzyme replacement therapy.

Answer: B

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50. A doctor while operating on an HIV (+)ve patient accidentally cuts himself with a scalpel. Suspecting himself to have contracted the virus which test will he take to rule out/confirm his suspicion ?

A. PCR

B. Routine urine examination

C. TLC

D. DLC

Answer: A

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51. Match the following genes in column I with the insects that can be protected from with their coded proteins in column II.

Column I	Column II
a. cry I Ac	(i) cotton bollowrm
b. cry I Ab	(ii) Beetles
c. Bt toxin gene	(iii) Corn borer

A. a-(i),b-(iii),c -(ii)

B. a-(ii), b-(i), c-(iii)

C. a-(i),b-(ii),c-(iii)

D. a-(ii),b-(iii),c-(i)

Answer: A

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52. E.coli are used in the production of

A. Rifampicin

B. LH

C. Ecdysone

D. Interferon

Answer: D

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53. Rosie' a transgenic cow is known to produce a type of milk which has all the following charcteristics, except

A. Protein content of 2.4 g/L

B. Has human α-lactalbumin

C. More balanced diet tham normal cow milk for babies

D. Was produced for the first time in 2001.

Answer: D

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54. According to the latest estimates. How many documented varicties of Basmati rice are grown in india?

A. 30

B. 27

C. 118

D. 125

Answer: B

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55. Which ingredient was present in higher concentration in GM rice as compared to the usual rice?

A. Protein content of 2.4 g/L

B. Carbohydrates

C. Na^+ ions

D. Vitamin A

Answer: D

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56. Which of the followding cannot be achieved using PCR?

A. Detect HIV in ADIS suspect.

B. Detect mutations in cancer patients.

C. Detect antigen-antibody interaction

D. Detect specific minroorganisms from soil.

Answer: C

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57. In electrophoresis, the separation of DNA fragment is based on

A. Charge

B. Mass only

C. Size

D. Both (1) and (3)

Answer: D

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58. Pick the odd one out:

A. DNA microinjection

B. RNA interference

C. Retro virus mediated gene transfer

D. Embryonic stem cell mediated gene transfer

Answer: B

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59. In xentoransplantation, a protein that causes graft rejection usually comes from transgenic

A. Cow

B. Mice

C. pig

D. Sheep

Answer: C

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60. Transgenics have provided many pharamaceuticals in their milk, for treatment

of diseases. Which one of the following has not been a successful story?

A. Phenylketonuria

B. SCID

C. Emphysema (hereditary)

D. CFTR

Answer: B

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61. Which is not true w.r.t transgenic animals and their contribution to human welfare?

A. Transgenic mice are being tested to ensure safety of polio vaccine.

B. Rosic's milk contained human gene insulin.

C. Transgenic cows produce milk with less lactose.

D. Transgenic sheep grow more wool.

Answer: B

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62. An antibacterial compound that prevents mastitis in cows is

A. α-1-Antitrypsin

B. Lysostaphin

C. Lysozyme

D. Alginate lyase

Answer: B

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63. Choose the incorrect statement with respact to bioweapons:

A. They are low-cost weapons.

B. They cause more casualties than conventional weapons.

C. They are extremely difficult to detect

D. Bacterium E.coli created letter scare in 2001.

Answer: D

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64. A set of standards by which a community regulates its behaviour and activities in relation to the biological world is termed as

A. Biopatent

B. Biopiracy

C. Patent

D. Bioethic

Answer: D

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65. Nexia biotechnologies spliced spider genes into the cells of lactating

A. Cow

B. Sheep

C. Goat

D. None of these

Answer: C

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66. Nif' gene for nitrogen fixation in cereal crops like wheat jowar etc., is introduced by cloning

A. Rhizobium meliloti

B. Bacillus thuringiensis

C. Rhizopus

D. Rhizophora

Answer: C

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67. VNTRs represent

A. New terminal regions in DNA

B. Function genes in DNA

C. Split genes in sample DNA

D. Specifi non-coding sequencies with unique tandem repeats

Answer: D

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68. Sheep Dolly was genetically similar to

A. The mother from which nucleated fertilized egg was taken

B. The mother from which the nucleus of udder cell was taken

C. The surrogate mother

D. Both surrogate mother and nuclear donor mothe

Answer: B

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69. How does a bacterial cell protect its own DNA from restriction enzymes?

A. By adding methyl groups to adnenies and cystosines

B. By reinforcing bacterial DNA structure with covalent phoshodiester bonds

C. By adding histonest to protect the double-strended DNA

D. By forming "sticky ends" of bacterial DNA to prevent the enzyme from attaching.

Answer: A

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70. All cells contain the same genetic information .Why cannot cells other than stem cells differentiate into various tissues?

A. As cell develop, their genetic makeup changes.

B. Stem cells are the only cells that can be implanted.

C. Stem cells are the only cells that do not have an X or Y chromosome and can,therefore, go into either a male or a female.

D. As cells develop, some genes are turned off permanently.

Answer: D

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71. Polymerase chain reaction technology (PCR -technique) is used for

A. DNA identification

B. DNA repair

C. DNA amplification

D. Cleave DNA

Answer: C

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72. Golden rice is a promising transgenic crop.

When released for cultivation , it will help in:

A. Alleviation of vitamin A deficiency

B. Pest resistance

C. Herbicide tolerance

D. Producing a petrol-like fuel form rice

Answer: A

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73. When the genotype of an organism is improved by the addition of foreign gene, the process is called

A. Tissue culture

B. Genetic diversity

C. Genetic enginerring

D. Plastic surgergy

Answer: C

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74. A genetically maniplulated organism containing in its genome one or more insected gene of another species is called

A. Transposom

B. Gene expression

C. Transgenic organisms

D. Retroposom

Answer: C

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75. Use of transgenic plants as biological factories for the production of special chemical is called

A. Molecular farming

B. Molecular genetic

C. Molecular mapping

D. Dry farming

Answer: A

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76. Which vector is commonly used in the transfer of gene in a crop plant

A. Plasmisa of B. subtils

B. Bacteriophages

C. Ti plasmids of Agrbacterium

D. E.coli phage

Answer: C

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77. The tumour inducing capacity of Agrobacterium tumefaciens is located in large extrachromosomal plasmids called :

A. Ti plasmid

B. Ri plasmid

C. Lambda phage

D. Plasmind pBR322

Answer: A

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78. Genetic engineering aims at:

A. Destroying wild gene

B. Presrving defective gene

C. Curing human disease by introducing new gene (hemophilia)

D. All these above

Answer: C

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79. Taq-polymerase which is used for amplification of DNA related with

A. Hydridoma technique

B. PCR technique

C. Gene cloning

D. rDNA technology

Answer: B

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80. Thermal cycle takes place in which technique

A. Gel electrophoresis

B. PCR technique

C. Centrifugation

D. Southern blotting

Answer: B

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81. Cry-gene which synthesize crystal protein isolated from:

A. Bacillus thuringiensis

B. Rhizobium

C. Bacillus polymyxa

D. Clostridium

Answer: A

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82. Which of the following risks are associated with genetically modified foods ?

A. Toxicity

B. Allergic reactions

C. Antibiotic resistnace in microorganisms present in alimentray canal

D. All of the above

Answer: D

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83. PCR-technique is used in

A. Production of transgenic microbes

B. Production of genetically modified food

C. Forensic investigation

D. rDNA techique

Answer: C

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84. TDE gene is a

A. Gene present on X-chormosome

B. Segment of RNA

C. Proteinaceous factor

D. Gene present on Y-chormosome

Answer: D

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85. BACs and YACs are:

A. Natural DNA obtained from bacteria and yeast

B. Useful vectors for eukaryotic gene transfer

C. Artifical DNA obtained from bacteria and yeast

D. Both (2) and (3).

Answer: D

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86. Gene therapy first used in the treatment of

A. Albinism

B. Hemophilia

C. SCID

D. LIQID

Answer: C

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87. DNA probe is used for

A. DNA fingerprinting

B. Detectction of pathogeni bacteria

C. Medical geneticss to find whether a preson carries a particular gene or not

D. All of the above

Answer: D

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88. Bt-cotton is resistant for

A. Roundworn

B. Flukeworn

C. Bollworn

D. Pinworn

Answer: C

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89. A genetically engineered microbe utilized for cleaning oil spills is:

A. Pseudomons

B. Trichoderma

C. Xanthomonas

D. Bacillus

Answer: A

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90. Cultivation of Bt cotton has been much in the news. The prefix "Bt" means

A. 'Barium-treated" cotton seeds

B. 'Bigger thread " variety of cotton with better tensile strenght

C. Produced by "biotechnology" using restriction enzyme and ligase

D. Carrying an endotoxin gene from Bacillis thuringinenisis.

Answer: D

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91. An example of gene therapy is

A. Production of injected hepatities B vaccine

B. Production of vaccines in food crops such as potatoes which can be eatem

C. Introduction of gene for adenosine deaminase in person suffering from sever combined immunideficieny (SCID).

D. Production of test-tube babies by artifical insemination and implantation of ferztilized eggs

Answer: C

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92. The bacteria Pseudomonas is useful because of its ability to

A. Transfer genes from one plannt to another

B. Decompose a varitey of organic compounds

C. Fix atmospheric nitrogen in the soil

D. Produce a wide variety of antibiotic

Answer: B

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93. The approximate number of genes contained in the genome of Kalpana Chawla was

A. 40000

B. 30000

C. 80000

D. 1,00,000

Answer: B

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94. Agrobacterium tumefaciens contains a larger plasmid, which induces tumour in the plants it is termed as

A. Ti plasmid

B. Ri plasmid

C. Recombinant plasimd

D. Shine -Dalgorno sequence

Answer: A

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95. Transgenic crops are modified through genetic engineering to develop natural resistance to insct pests. Which of these pairs consits of transgenic crops ?

A. Tobacco and cotton

B. Tomato and rice

C. Mazie and sugarane

D. Tomato and wheat

Answer: A

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96. Genetically engineered human insulin is called

A. Humulin

B. Haematin

C. Hydriodama

D. Hybrid

Answer: A

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97. Abzymes are

A. Abnormal enzymers

B. Enzymes acting on antibodies

C. Antibodies acting as enzymes

D. All of these

Answer: C

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98. Hybridoma technology was developed by

A. Taggart, 1982

B. Price and Saxton, 1987

C. Vitella et. Al., 1982

D. Kohler and Milstein

Answer: D

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99. The techinque for moclonal antibody produciton was discovered byb

A. Steward and Skoog

B. Arban and Harberlam

C. Kohelr and Milstein

D. Lister and Koach

Answer: C

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100. The first transgenic plant developed was a

A. Potato

B. Tomato

C. Tobacco

D. Maize

Answer: A

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101. Dolly sheep was obtained by

A. Cloning the under cell (somatic cell) fused with uninucleted ocoyte

B. Cloning of gametes

C. Tissue culutre

D. None

Answer: B

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102. A gaint rat is formed in the laboratory. What is the reason ?

A. Gene mutation

B. Gene sythesis

C. Gene manipulation

D. Gene replication

Answer: C

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103. The first cloned animals was

A. Dolly sheep

B. Polly sheep

C. Molly sheep

D. Dog

Answer: A

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104. Introduction of food plants developed by genetic engineering is not desirable because

A. Economy of developing countries may suffer

B. Thses products are less tasty as compared to the already existing products

C. This method is costly

D. There is danger of introduction of viruses and toxins with introduced crop.

Answer: D

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105. Which one of the following bacteria has found extensive use in genetic engineering work in plants?

A. Bacillus cocagular

B. Agrobacterium tumefaciens

C. Clostridium septicum

D. Xanthomonas citri

Answer: B

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

A. Vaccines

B. Edible protein

C. Insulin

D. Interferon

Answer: A

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107. The Ti plasmid, is often used for making transgenic plants. This plasmid is found in

A. Yeast as a 2-mm plasmid

B. Azotobacter

C. Rhizibium of the roots of leguminos plants

D. Agrobaterium

Answer: D

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108. In transgenics, expression of transgene in target tissue is determined by :

A. Reporter

B. Enhance

C. Transgene

D. Promoter

Answer: A

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109. Bacillus thuringiensis (Bt) strains have been used for designing novel

A. Bioinsecticidal plants

B. Bio-minerliztion process

C. Biofertilizes

D. Bio-metallurgical thechniques

Answer: A

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110. Which one of the following is a correct statement ?

A. 'BT" in BT-cotton indicates that in is a genetically modified organism produced biotechnology.

B. Somatic hydridization involves the fusion of two complete plant cells carying desired genes.

C. The anticoagulr hirudin is being produced form transgenic Brassica napus seeds.

D. 'Flavr Savr" variety of tomato has enhanced the production of ethuylene which improves its tastes.

Answer: B

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Exercises Assertion Resasoning Questions

1. A : RNAi takes place in all eukaryotic organisms as a method of cellular defense.

R : Complementary dsRNA molecule binds to specific mRNA and prevents its translation (silencing).

A. If both Asserition and Reason are true but the reason is the correct explaintion of the assertion.

B. If both Assertion and Reason are true buth the reason is not the correct explaination of the assertion

C. If Assertion and Reason in false

D. If both Assertion and Reason are false

Answer: B

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2. A : Bt toxin are protein crystals containing insecticidal protein

R : B. thuringiensis forms these protein crystals throughout continuously during their growth period.

A. If both Asserition and Reason are true but the reason is the correct explaintion of the assertion.

B. If both Assertion and Reason are true buth the reason is not the correct

explaination of the assertion

C. If Assertion and Reason in false

D. If both Assertion and Reason are false

Answer: C

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3. A : Recombinant DNA technologies process has been less effective in therapeutic drug production.

R : Recombinant therapeutics induce unwanted immunological responses.

A. If both Asserition and Reason are true but the reason is the correct explaintion of the assertion.

B. If both Assertion and Reason are true buth the reason is not the correct explaination of the assertion

C. If Assertion and Reason in false

D. If both Assertion and Reason are false

Answer: D

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4. Assertion: Transgenic mice are being used to test the safety of the polio vaccine

Reason :They could not replace the use of monkeys to test the safety of batches of the vaccine

A. If both Asserition and Reason are true but the reason is the correct explaintion

of the assertion.

B. If both Assertion and Reason are true buth the reason is not the correct explaination of the assertion

C. If Assertion and Reason in false

D. If both Assertion and Reason are false

Answer: B

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5. Assertion: GEAC will make decision regarding the validity of GM research and the safety of introducing GM organisms for public services

Reason :Genetic modification of organism can have unpredictable result when such organisms are introduced into the ecosystem

A. If both Asserition and Reason are true but the reason is the correct explaintion of the assertion.

B. If both Assertion and Reason are true buth the reason is not the correct explaination of the assertion

C. If Assertion and Reason in false

D. If both Assertion and Reason are false

Answer: A

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Archives Choose The Correct Options

1. Main objective of production/use of herbicide resistant GM crops is to :-

A. encourage eco-friendly herbicides

B. reduce herbicide accumulation in food articlea for health safety

C. eliminate weeds from the field without the use of manual labour

D. eliminate weeds from the field without the use of herbicides

Answer: C

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2. A transgenic food crop which may help in solving the problem of night blindness in developing countries is

A. Bt. Soybean

B. Golden rice

C. Flaver Saver tomatoes

D. Starlink maize

Answer: B

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3. Transgenic plants are the ones:

A. Grown in artificial medium after hydridication in the field

B. produce by a somatic embryo in artificial medium

C. Generated by introducing foreign DNA in to a cell and regenerating a plant from that cell

D. produce after protoplast fusion in artificial medium

Answer: C

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4. What is true about Bt toxin?

A. The concerned Bacillus has antitoxins

B. The inactive protoxin gets convereted into active from in the insect gut

C. Bt protein exists as active toxin in the bacillus

D. The activated toxin enters the ovaries of the pest to sterillise it and thus prevent its multiplicaton.

Answer: B

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5. Which one of the following is commonly used in transfer of foreign DNA into crop plants ?

A. Penicillium expansum

B. Trichoderma harzianum

C. Meloidogyne incognita

D. Agrobaterium tumefaciens

Answer: D

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6. Some of the characteristics of Bt cotton are

A. Long fibre and resistance to aphids

B. Medium yield, long fibre and resistance to beetle pests

C. High yield and production of toxic protein crystals which kill dipteran pests

D. High yield and resistance to bollworms

Answer: D

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7. Genetic engineering has been successfully used for producing

A. transgenic mice for testing safety of polio vaccine before use in humans

B. transgenic models for studying new treatments for certain cardiac disease

C. transgenic Cow-Rosie which produces high fat milk for making ghee

D. Animals like bulls for farm work as they have super power

Answer: A

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8. The genetically -modified (GM) brinjal in India has been developed for

A. Insect-resistnace

B. Enhancing shelf life

C. Enhancing mineral content

D. Drought-resistance

Answer: A

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9. Continous addition of sugars in 'fed batch' fermentation is done to

A. degrade sewage

B. produce methane

C. obtain antibiotica

D. purify enzymes

Answer: C

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10. Maximum number of existing transgenic animals is of

A. Pig

B. Fish

C. Mice

D. Cow

Answer: C

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11. The most common substrate used in distilleries for the production of ethanol is _____

A. Molasses

B. Corn meal

C. Soyabean

D. Ground gram

Answer: A

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12. Consumption of which one of the following foods can prevent the kind of blindness associated with vitamin 'A' deficiency ?

A. Golden rice

B. Bt.Brinjial

C. Flavor Savr Tomato

D. Canolla

Answer: A

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13. Tobacco plants resistant to a nematode have been developed by the introduction of DNA that produced (in the host cells):

A. Both sence and anti-sence RNA

B. A particular hormone

C. An antifeedant

D. A toxia protein

Answer: A

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14. The first clinical gene therapy was given for treating :

A. Diabetes mellitus

B. Chicken pox

C. Rheumatoid arthritis

D. Adenosine deaminase deficiency

Answer: D

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15. Which of the following Bt crops is being grown in India by the farmers ?

A. Cotton

B. Brinjal

C. Soyabean

D. Maize

Answer: A

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16. The first human hormone produced by recombinant DNA technology is :

A. Insulin

B. Estrogen

C. Thyroxin

D. Progesterone

Answer: A

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17. which body of the government of india regulates GM reserch and safety of introducing GM organisms of public services ?

A. Research Committee on Genetic Manipulation

B. Bio-safety committee

C. Indian Council of Agricultural Research

D. Genetic Engineering Approval Committee

Answer: D

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18. In Bt cotton, the Bt toxin present in plant tissue as pro-toxin is converted into active toxin due to

A. present of conversation factors in insect gut

B. alkaline pH of the insect gut

C. acidic pH of the insect gut

D. action of gut micro-organisms

Answer: B

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19. The crops engineered for glyphosate are resistant/tolarant to

A. Herbicides

B. Fungi

C. Bacteria

D. Insects

Answer: A

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20. The cutting of DNA at specific locations became possible with the discovery of

A. Ligases

B. Restriction enzymes

C. Probes

D. Selectable markers

Answer: B

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21. The two polypeptides of human insulin are linked together by

A. Hydrogen bonds

B. Phosphodiester bond

C. Covalent bond

D. Disulphide bridges

Answer: D

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