GENERAL MICROBIOLOGY

1. **Who discovered the Human immunodeficiency virus, the causative agent of AIDS?**
2. MontagnierandRobert Gallo
3. Carl Woese
4. Howard TeminandDavid Baltimore
5. Francois Jacob
6. **Φ-X174 is fundamentally a**
7. Bacteriophage
8. Bacteria
9. Fungi
10. Mycoplasma

Ans. a

Ans. a

1. **The ribosome present in bacteria is of which of the following type?**
2. 70S
3. 80S
4. 60S
5. 90S

Ans. a

1. **Mitochondrial and chloroplast ribosomes of eukaryotes are of the type**
2. 70S
3. 80S
4. 100S
5. 90S

Ans. a

1. **The eukaryotes contain which types of ribosomes in their cells**
2. 70S
3. 80S
4. 100S
5. Both (a) & (b)

Ans. b

1. **Which of the following is generally referred to as molecular chronometer in bacteria?**
2. 16S-rRNA
3. 23S-rRNA
4. 5S-rRNS
5. 25S-rRNA

Ans. a

1. **Pasteurization involves heating of the substance in order to kill**
2. Pathogenic microorganisms
3. All microorganisms
4. Spores
5. All of the above

Ans. a

1. **The germ theory of disease was propounded separately by**
2. Louis Pasteur
3. Robert koch
4. Both
5. None
6. **The causative agent of Tuberculosis was discovered by**
7. Robert Koch
8. Nicolaier
9. Kitasato
10. Charles Chamberland
11. **The biosynthesis of complex molecules of microbial protoplasm from ammonium and nitrate is called as**
12. Mineralization
13. Immobilization
14. Denitrification
15. All of the above
16. **Who was first to postulate that formation of nitrate was a microbiological process**
17. Winogradsky
18. Pasteur
19. Beijerinck

Ans. c

Ans. a

Ans. b

1. Waksman

Ans. b

1. **First experimental evidence that nitrification is a biological process was provided by**
2. Schloesing and Muntz
3. Martin Alexander
4. Hellriegel
5. Wilfarth

Ans. a

1. **Who first isolated nitrifying bacteria responsible for production of nitrate from ammonia**
2. Carnaham
3. Winogradsky
4. Del Tredici
5. Dobereiner
6. **Cell free-extract of nitrogenase was first obtained from**
7. Clostridium pasteurianum
8. Azotobacterchroococcum
9. Azotobactervinelandii
10. Azospirillumbrazilense
11. **Nitrifying bacteria are**
12. Small
13. Gram-negative
14. Rod shaped/spherical bacteria
15. All of the above

Ans. b

Ans. a

Ans. d

1. **Nitrifying bacterial activity is severely restricted under which condition**
2. Acidic
3. Anaerobic
4. Absence of nitrate
5. All of the above

Ans. d

1. **The rate of nitrification becomes negligible below pH**

(a) 6.0

(b) 5.0

(c) 7.5

(d) 7.0

1. **Which of the following nitrifying bacteria form Zoogloea surrounded by common membrane forming a cyst**
2. Nitrosomonas
3. Nitrosococcus
4. Nitrosocystis
5. Nitrosospira

Ans. b

Ans. c

1. **Which of the following nitrifying bacteria form** „**Cells in masses in slime without a common membrane’**
2. Nitrosomonas
3. Nitrosococcus
4. Nitrosogloea
5. Nitrosospira
6. **Which of the following nitrifying bacteria form Zoogloea**
7. Nitrosocystis
8. Nitrosogloea
9. Both
10. None
11. **The process in which aerobic bacteria grow anaerobically using nitrate as the final electron acceptor is known as**
12. Nitrification
13. Nitrogen respiration
14. Nitrosification
15. Immobilization
16. **Denitrification involves conversion of nitrate to**
17. Nitric oxide
18. Nitrous oxide
19. Dinitrogen
20. All of the above

Ans. c

Ans. c

Ans. b

Ans. d

1. **In dissimilatory nitrogen reduction what is used as an electron acceptor**
2. Nitric oxide
3. Nitrous oxide
4. Dinitrogen
5. Nitrate
6. **In denitrification nitrate is ultimately reduced to**
7. Molecular nitrogen
8. Ammonia
9. Nitrate
10. Nitrite
11. **Which of the following are denitrifying bacteria**
12. Micrococcus denitrificans
13. Pseudomonas denitrificans
14. Pseudomonasaeruginosa
15. All of the above
16. **Which of the following is non-symbiotic N-fixing microorganism**
17. Clostridium
18. Azotobacter
19. Klebsiella
20. All of the above

Ans. d

Ans. a

Ans. d

Ans. d

1. **An individual grown from single somatic cell of its parent & genetically identical to it is called as**
2. Clone
3. Half sibling
4. Zygote
5. Merozygote

Ans. a

1. **Bacterial cells that can take up DNA from the environment are said to be**
2. Transformants
3. Conjugates
4. Competent
5. None

Ans. c

1. **Which of the following are used as cloning vector**
2. Plasmid
3. Phage 
4. Cosmids
5. All of the above
6. **Yeast artificial chromosomes (YACs) are used as**
7. Vectors for cloning
8. Yeast killers
9. Yeast protectants against diseases
10. None

Ans. d

Ans. a

1. **Bacterial artificial chromosomes (BACs) are generally used as cloning vectors for**
2. Small fragments of DNA
3. Large fragments of DNA
4. Both
5. None

Ans. b

1. **Which among the following is required by a transformation vector**
2. Origin of replication
3. Bacterial selectable marker
4. Gene constructs of interest
5. All of the above
6. **Types of plasmids present in bacterial cells are**
7. F-plasmid
8. Col-plasmid
9. R-plasmid
10. All of the above

Ans. d

Ans. d

1. **Genes for antibiotic resistance in bacteria are mainly located on**
2. Chromosomes
3. Plasmids
4. Mesosomes
5. All of the above

Ans. b

1. **TA cloning requires the use of**
2. Taq polymerase
3. RNA polymerase
4. Reverse transcriptase
5. All of the above
6. **Blunt end ligations of DNA are**
7. Non-directional
8. Inefficient
9. Long lasting
10. Both (a) and (b)

Ans. a

Ans. d

1. **The gene responsible for Ampicillin resistance in bacteria is**
2. α-Lactamase
3. β-Lactamase
4. γ-Lactamase
5. All of the above

Ans. b

1. **The restriction enzyme EcoRIrecognises a sequence with how much number of nucleotides**
2. Two
3. Six
4. Five
5. Four

Ans. b

1. **The restriction enzyme EcoRI generates which type of DNA fragments**
2. 3‟ sticky ends
3. 5‟ sticky ends
4. 3‟ blunt ends
5. 5‟ blunt ends

Ans. b

1. **Which of the following cloning vector has capacity to insert the largest fragment of DNA**
2. Plasmid
3. Phage 
4. BACs
5. YACs

Ans. d

1. **Which among the following are features of pUC19 plasmid vector**
2. High copy number
3. Ampicillin resistance as selectable marker
4. Has polylinker in the lacZ gene
5. All of the above

Ans. d

1. **Which among the following are correct statements for Cosmid cloning vectors**
2. Features of both plasmid and phage cloning vectors
3. Has Origin (ori) sequence
4. Useful for 37-52 kb inert transfer
5. All of the above

Ans. d

1. **Which of the following statements are correct for Shuttle vectors are**
2. Capable of replicating in two or more types of hosts.
3. Replicate autonomously, or integrate into the host genome and replicate when the host replicates.
4. Commonly used for transporting genes from one organism to another (i.e., transforming animal and plant cells).
5. All of the above
6. **Bacterial artificial chromosomes (BACs) contain:**
7. Origin (ori) sequence
8. Multiple cloning sites
9. Selectable markers
10. All of the above
11. **Which enzymes only cut dam methylated DNA**
12. EcoRI
13. DpnI
14. BamH1
15. None of the above

Ans. d

Ans. d

Ans. b

1. **Plasmid vectors can be designed with which of the following features**
2. Antibiotic resistance
3. Colorimetric “markers”
4. Strong or weak promoters for driving expression of a protein
5. All of the above

Ans. d

1. **Why do we need so many types of vectors?**
2. Functional analysis of open reading frame (ORFs)
3. Overexpression and knockdown (RNAi) of specific genes.
4. Analysis of the expression level/specificity/ inducibility of promoters
5. All of the above
6. **What are the problems with conventional cloning**
7. Inconvenient restriction sites
8. Vector construction is laborious
9. Time-consuming reactions
10. All of the above

Ans. d

Ans. d

1. **Which of the following Bt transgenic crops is commercialized in India**
2. Cotton
3. Brinjal
4. Soybean
5. Rice
6. **Tris is a**
7. Dye
8. Stain
9. Detergent
10. None of te above
11. **Which among the following is entomopathogenic bacteria**
12. Bacillus thuringiensis
13. Bacillus cereus
14. Both
15. None
16. **Who named the bacterium Bacillus thuringiensis**
17. Ishiwata
18. Berliner
19. Philip Fitz-James
20. None

Ans. a

Ans. d

Ans. c

Ans. b

1. **Which bacterium induces apoptosis in the midgut of lepidopteran insect?**

|  |  |  |
| --- | --- | --- |
| (a) | Klebsiella sp. |  |
| (b) | Photorhabdus sp. |
| (c) | Citrobacter sp. |
| (d) | Brucella sp. |
|  |  | Ans. b |
| **54.** | What **is cellular reserve material in bacteria called volutin** |  |
| (a) | Starch |  |
| (b) | Glycogen |  |
| (c) | Protein |  |
| (d) | Polymerised inorganic phosphates |  |
|  |  | Ans. d |
| **55.** | **Generation time in bacteria means** |  |
| (a) | Life span of a bacterial cell |  |
| (b) | Period for doubling the population |  |
| (c) | Time required for cellular growth |  |
| (d) | Conjugation time |  |
|  |  | Ans. b |
| **56.** | **An authoritative book on bacterial taxonomy** |  |
| (a) | Microbial world |  |
| (b) | Biological abstract |  |
| (c) | Bergey's manual of determinative bacteriology |  |
| (d) | The bacteria |  |
|  |  | Ans. c |
| **57.** | Isolation **of root nodule bacteria was first reported by** |  |
| **(a)** | **Beijerinck** |  |
| **(b)** | **Hellrigal and Wilfanh** |  |
| **(c)** | **Lachmann and Waronin** |  |
| **(d)** | **Bassingault** |  |
|  |  | Ans. b |
| **58.** | **Rhizobium** that inhabits the nodules of leguminous plants is | known |
|  | as |  |
| (a) | Endosymbiosis |  |
| (b) | Heterotropism |  |
| (c) | Parasitism |  |
| (d) | Endosymbiosis |  |

Ans. a

59. Which of the following plate counts are selected for determination of bacterial population?

(a) 3 to 30

|  |  |  |
| --- | --- | --- |
| **(b)** | **30 to 300** |  |
| **(c)** | **300 to 3000** |  |
| **(d)** | **3000 to 30,000** |  |
|  |  | **Ans. b** |
| **60.** | **The function of fimbriae and pili is** |  |
| **(a)** | **Motility** |  |
| **(b)** | **Conjugation tube** |  |
| **(c)** | **Adhesion** |  |
| **(d)** | **All of the above** |  |
|  |  | Ans. d |
| **61.** | **The bacterial flagella are made up of a protein called** |  |
| (a) | Flagellin |  |
| (b) | Fimbrinin |  |
| (c) | Glutamine |  |
| (d) | Agglutinin |  |
| **62.** |  **Form bacteria is related to** | Ans. a |
| (a) | non-proteinaceous |  |
| (b) | nucleoid |  |
| (c) | wall-less bacteria |  |
| (d) | gram positive |  |
|  |  | Ans. b |
| **63.** | **Bacteria is related to** |  |
| (a) | non-proteinaceous |  |
| (b) | nucleoid |  |
| (c) | wall-less bacteria |  |
| (d) | gram positive |  |
|  |  | Ans. c |
| **64.** | **Viroid is related to** |  |
| (a) | non-proteinaceous |  |
| (b) | nucleoid |  |
| (c) | wall-less bacteria |  |
| (d) | gram positive |  |
|  |  | Ans. d |
| **65.** | If **decomposers** on the earth are totally extinct, the most | secure |
|  | effect would be that |  |
| (a) | carnivores will not get food |  |
| (b) | biomagnification |  |
| **(c)** | **minerals will not get recycled** |  |