

Subject : **Botany**
Paper name : **Microbiology, Cytology, Genetics, Evolution.**
Paper No. : **BOT/IV/CC/07**
Semester : **4th**

A. Multiple Choice Questions.

1. Bacteria having a tuft of flagella one end are called
 - a) Monotrichous
 - b) Lophotrichous
 - c) Amphitrichous
 - d) Peritrichous

2. Bacterial cell wall is composed of
 - a) Peptidoglycan
 - b) Lignin
 - c) Suberin
 - d) Cellulose

3. When DNA is exchanged, via cytoplasmic bridge between two bacteria, the process is called
 - a) General transduction
 - b) Restricted transduction
 - c) Transformation
 - d) Conjugation

4. Plasmids are
 - a) Viruses
 - b) A type of cyanobacteria
 - c) Essential bacterial elements
 - d) Extra-chromosomal bacterial elements

5. In replication of bacteriophage the host cell remain alive in
 - a) Lysogenic cycle
 - b) Lytic cycle
 - c) Both a and b
 - d) None of the above

6. The spherical or ellipsoidal bacteria are called
 - a) Coccus
 - b) Bacillus
 - c) Helical
 - d) Vibrios

7. Oxidation of ammonia into nitrate is known as
 - a) Ammonification
 - b) Denitrification
 - c) Nitrification
 - d) Deamination

8. During fermentation, glucose/ other organic substances are broken to yield
 - a) Methanol, CO₂ and energy
 - b) Isopropyl alcohol and CO₂
 - c) Methanol and energy
 - d) Ethanol , CO₂ and energy

9. Which one of the following is the microbial enzyme that splits sucrose into glucose
 - a) Pectinase
 - b) Invertase
 - c) Proteases
 - d) Ligase

10. Leguminous plants has a symbiotic relationship with
 - a) Rhizobium
 - b) E. coli
 - c) Azolla
 - d) Anabaena

11. Cotrolled fermentation of Cucumber can be achieved by *Lactobacillus planterum* for making
 - a) Sauce
 - b) Tofu
 - c) Pickles
 - d) Poi

12. Which one of the following microorganism is the source for making antibiotic like chlorotetracycline
 - a) *Streptomyces halstedii*
 - b) *Streptomyces venezuelae*
 - c) *Streptomyces aureofaciens*
 - d) *Streptomyces erythreus*

13. Alleles of different genes that are on the same chromosome may occasionally be separated by a phenomenon known as
 - a) Pleotropy
 - b) Crossing over
 - c) Epistasis
 - d) Linkage

14. The phenomenon of two or more than two gens affecting the expression of each other is called
 - a) Crossing over
 - b) Paring
 - c) Gene interaction
 - d) Linkage

15. Name the phenomenon where two genes have the same expression of the character?
- Phenocopy
 - Pleiotropy
 - Penetrance
 - Expressivity
16. Two pair of non allelic dominant genes which interact to produce one phenotype is
- Complementary gene
 - Supplementary gene
 - Epistasis
 - Dihybrid cross
17. Self crossing a white flower of sweet pea would give a
- White flower only
 - Equal probability of white / purple
 - More white flower than purple
 - Purple flower only
18. The chromosome responsible for determination of sex are called
- Allosomes
 - Allels
 - Chromatin
 - Autosomes
19. In human sex is determined
- Before fertilization
 - During fertilization with ovum
 - After two weeks of fertilization
 - After three weeks of fertilization
20. Epistasis is the interaction between
- 4 genes
 - 2 genes
 - 6 genes
 - 8 genes
21. Which of the following is homozygous dominant
- Yy
 - yY
 - yy
 - YY
22. Which of the following microorganism have two nuclei?
- Slime mold
 - Cyanobacteria
 - Amoeba
 - Paramecium

23. In incomplete dominance
- Phenotype of both allele is expressed
 - Phenotype of only one is expressed
 - Phenotype of neither of the alleles are expressed
 - Phenotype of both allele is partially expressed
24. The condensation of chromosome is observed in
- Prophase I
 - Anaphase I
 - Metaphase I
 - None of the above
25. Which of the following is not a component of the nucleus?
- Chromosome
 - Nucleolus
 - Cytoplasm
 - Nuclear envelope

Fill in the blanks:

- A nitrite oxidising bacterium is _____.
- Transfer of genetic material from one bacterium to another by virus is called _____.
- Plasmids are _____ stranded DNA molecules.
- During infection in lytic cycle, the host specificity of the phage particle is due to its _____ and not the nucleic acid.
- The nutrients poor lake is known as _____ lake.
- _____ is made by fermenting milk with a mixture of *Lactobacillus* and *Streptococcus* at 40°C.
- Penicilins are active against a variety of gram ___ bacteria.
- Lethal allele can be both dominant as well as _____.
- The crossing of F1 to homozygous recessive parent is called _____.
- Mendel used _____ plant for his experiments.
- If the sperm with X chromosome fertilized the egg the sex of the child will be _____.
- Crossing over is essential for the normal _____ of chromosome during meiosis.
- Human have _____ pairs of chromosomes.
- Nuclear DNA replicates in the _____ plane.
- Drosophilla melanogaster* has _____ pair of chromosomes.

KEY ANSWER

Multiple Choice Questions

1. B
2. C
3. C
4. D
5. B
6. A
7. C
8. D
9. B
10. A
11. C
12. C
13. B
14. C
15. B
16. A
17. A
18. A
19. B
20. B
21. C
22. D
23. D
24. A
25. C

Fill in the blanks :

1. Nitrobacter
2. Transduction
3. Circular double
4. Protein
5. Oligotrophic
6. Yogurt
7. +ve
8. Recessive
9. Test cross
10. Pisum sativum
11. Female
12. Segregation
13. 23
14. S
15. four