JAN - 2024

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Microbiology

[Time: 3 Hours] [Max. Marks: 80]

IV SEMESTER

PAPER - I (Microbiology Genetics)

QP CODE: 8405

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Explain plasmid with its various types in detail.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Write a note on mutation. Explain any two different types of mutations
3. Explain generalized and specialized transduction
4. Give an account on eukaryotic transposable elements.
5. Define physical mutagens and its effects.
6. Explain different types of transposable elements.
7. Define conjugation with diagrams.
8. Intra- and intergenic suppression.
9. Write a note on the Ames test.
10. Explain repair mechanisms: a) photoreactivation b) Nucleotide excision repair.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. What is bacterial competence?
12. What is col plasmid?
13. What are deletion and insertion sequences?
14. Brief on transformation.
15. Write a brief note on DNA repair mechanisms.
16. What is NER?
17. What are functional mutants?
18. Define composite transposable elements.
19. Write a short note on the SOS repair mechanism.
20. Write about the importance of microbial genetics.
21. Explain transition and transversion mutations.

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IV SEMESTER
PAPER - II (Virology)
QP CODE: 8406

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Explain salient features of viral nucleic acid TMV, T4 phage and HIV.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Discuss in brief the structure and life cycle of T4 bacteriophage.
3. Explain how the viruses are linked in causing cancer.
4. Give an account on the lytic and lysogenic cycle.
5. Capsid symmetry, enveloped and non-enveloped viruses.
6. What are interferons? Explain its types and its mode of action.
7. Discuss Acyclovir as an antiviral compound.
8. Explain the general properties of viruses in detail.
9. Write a note on cultivation of viruses.
10. Explain salient features of picornavirus and influenza virus.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Write a note on HIV.
12. Hepatitis B.
13. Structure of T4 bacteriophage.
14. Brief on capsid symmetry.
15. Write a brief note on RNA viruses.
16. Write a short note on interaction of host and viruses.
17. Define virusoids and prions.
18. Write a note on ϕX174, Hepatitis B virus.
19. Brief about common viral diseases.
20. Economic importance of viruses.
21. Write a short note on oncogenic viruses.

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IV SEMESTER

PAPER - III (Food & Dairy Microbiology)

QP CODE: 8407

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. What is canning? Explain its process.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Explain general sources of food contamination.
3. What are the principles of food preservation?
4. Write a note on probiotics.
5. What is botulism? Explain.
6. What are the principles of HACCP?
7. What are the intrinsic factors that affect growth & survival of microbes in foods?
8. What are types of spoilage in food? Explain principles of microbial spoilage.
9. Write a brief note on food borne infections. Explain the role of microorganisms in food borne diseases.
10. What are the criteria for ideal indicators for pathogenic microorganisms in food?

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. What are extrinsic factor?
12. Write about meat and egg spoilage.
13. What are the physical methods of food preservation?
14. What is acidophilus milk?
15. Explain preparation of soy sauce.
16. What are the probiotic foods available in market?
17. What are mycotoxins?
18. Write about E.Coli.
19. Note on sugar as preservative.
20. What is sanitization in food processing?
21. What are possible indicator microorganisms in food hygiene test?