

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



U.G. DEGREE EXAMINATION – ALLIED

THIRD SEMESTER – APRIL 2023

UPB 3401 – APPLIED MICROBIOLOGY

Date: 12-05-2023

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A - K1 (CO1)

Answer ALL the Questions

(10 x 1 = 10)

1.	Fill in the blanks
a)	According to Carl Woese, all fungi are under the domain.....
b)	F ⁺ Cell is otherwise called as.....
c)	The most common substrate used as N source is
d)	One of the symptoms of pernicious anaemia is.....
e)	The process of extracting valuable metals from a low grade ore is called.....
2.	State whether the following sentences are TRUE or FALSE
a)	Bacteria have a definite nucleus.
b)	Plasmids have single stranded DNA.
c)	Glucose is a carbon source.
d)	Typhoid is caused by <i>Vibrio</i> .
e)	Water can be disinfected by chlorination.

SECTION A – K2 (CO1)

Answer ALL the Questions

(10 x 1 = 10)

3.	Choose the correct answer
a)	Mycology is the systematic study of i) algae ii) fungi iii) nematodes iv) bacteria
b)	During bacterial replication, the Okazaki fragments are formed during i) initiation ii) elongation iii) termination iv) all the above
c)	Tellurite broth is an example for i) Enrichment media ii) Enriched media iii) Basal media iv) Complex media
d)	Which of the following is not a type of Penicillin i) Penicillin-G ii) Penicillin-X iii) Penicillin-H iv) Penicillin-V
e)	In sewage water treatment, the disinfection stage is otherwise called as i) Primary stage ii) Secondary stage iii) Tertiary stage iv) None of the above
4.	Answer the following, each within 50 words
a)	Differentiate green algae from blue green algae.
b)	Define assay media.
c)	Comment on chromatography.
d)	Mention any two applications of citric acid.
e)	Write notes on xenobiotics.

SECTION B - K3 (CO2)

Answer any TWO of the following in 500 words

(2 x 10 = 20)

Draw diagrams / flowcharts wherever necessary

5.	What are the general characteristics of viruses?
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| 6. | Illustrate the methods of strain improvement of microorganisms used in fermentation. |
| 7. | Write notes on the classification and uses of amylases. |
| 8. | Describe biomineralization with its types. |

SECTION C – K4 (CO3)

Answer any TWO of the following in 500 words **(2 x 10 = 20)**
Draw diagrams / flowcharts wherever necessary

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| 9. | Explain the three domain classification by Carl Woese. |
| 10. | Describe the principle and steps involved in bacterial transformation. |
| 11. | Explain the functioning of biosensors with an example. |
| 12. | Summarize the types, components and importance of biofertilizers. |

SECTION D – K5 (CO4)

Answer any ONE of the following in 1000 words **(1 x 20 = 20)**
Draw diagrams / flowcharts wherever necessary

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| 13. | Consolidate details on the classification of bacteria. |
| 14. | Describe in detail the basic design of fermenter with its components and their functions. |

SECTION E – K6 (CO5)

Answer any ONE of the following in 1000 words **(1 x 20 = 20)**
Draw diagrams / flowcharts wherever necessary

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| 15. | Elucidate the methods involved in the establishment of pure culture. |
| 16. | Present a detailed account on bioremediation with its types, applications and limitations. |

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