C 4358 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Biotechnology

BTY 2C 03—ANIMAL BIOTECHNOLOGY AND IMMUNOLOGY

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer Type Questions)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Advantageous of animal cell culture over *in vivo* method.
2. Any four cell lines used in animal cell culture.
3. Distinguish primary and secondary cell culture.
4. What are transgenic animals ?
5. Limitation of human IVF.
6. Define antigen and antibody.
7. What are the organs of immune system ?
8. What is molecular pharming ?
9. What are recombinant vaccines ?
10. What are T cells and B cells ?
11. What are hybridoma cells ?
12. Distinguish interferon and vaccine.

(8 × 3 = 24 marks)

Section B (Paragraph Type Questions)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Explain the method for production of monoclonal antibody.
14. Describe the IVF procedure in human.
15. Explain the isolation and disaggregation of primary explants.
16. Discuss different mechanisms of innate immunity.
17. Explain the composition and nutrient value of serum in medium.
18. Explain the structure of an antigen.
19. Explain any *four* methods to characterize cell lines.

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** *question.*
The question carries 11 *marks.*

20. Explain the basic structure and functions of immunoglobulin's.
21. What is transfection and explain different transfection methods employed for gene transfer animals ?

(1 × 11 = 11 marks)

C 4357 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Biotechnology

BTY 2C 02—ENVIRONMENTAL BIOTECHNOLOGY

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer Type Questions)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Explain the principle of UV Light in water treatment.
2. What are methanogenic bacteria ?
3. Any one methods in Phosphate removal ?
4. What is sludge treatment ?
5. Fed batch reactor.
6. Primary sedimentation tank.
7. What is anaerobic pond ?
8. Any method for removal of dissolved solids.
9. Chemical characteristics of waste water.
10. What is imhoff tank ?
11. What is reverse osmosis ?
12. What is aeration tank ?

(8 × 3 = 24 marks)

Section B (Paragraph Type Questions)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Write down the procedure of distillation of water.
14. Water contaminating micro-organisms.

Turn over

15. What is UASB ?
16. Which are the measures to control water pollution ?
17. State the adverse effects of nitrate in drinking water.
18. Describe contact digesters'.
19. Discuss the adsorption based methods in tertiary treatment.

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** *question.*
The question carries 11 *marks.*

20. Explain different stages in wastewater treatment.
21. Describe the procedure for determining the quality of potable water.

(1 × 11 = 11 marks)

C 4356 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION APRIL 2021

Biotechnology

BTY 2B 02—GENERAL MICROBIOLOGY

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer Type Questions)

Answer at least **eight** *questions.*

Each question carries 3 *marks.*

All questions can be attended.

Overall Ceiling 24.

1. What are osmophiles ? Give one example.
2. Distinguish fission and budding.
3. What is plaque ?
4. Disinfectants.
5. Differential media.
6. Widal test.
7. Western blot analysis.
8. Dimorphic fungi.
9. Inspissation.
10. HEPA filter.
11. Mac Conkey agar.
12. Germ theory.

(8 × 3 = 24 marks)

Section B (Paragraph Type Questions)

Answer at least **five** *questions.*

Each question carries 5 *marks.*

All questions can be attended.

Overall Ceiling 25.

13. Describe TCA cycle and its significance.
14. Give a brief account on dermatomycoses.
15. Explain electron transport chain.
16. Describe pure culture methods.
17. Describe major 5 differences between eukaryote and prokaryotic cell.
18. Explain the lytic and lysogenic cycle of bacteriophage.
19. Discuss about reproduction in fungi.

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** *question.*

The question carries 11 *marks.*

20. Discuss various culture media used in Micribiology.
21. Write an essay on strategies adopted for disease development.

(1 × 11 = 11 marks)

C 4115 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Biotechnology

BTY 2B 02—GENERAL MICROBIOLOGY

Time : Three Hours Maximum : 80 Marks

Section A

Answer any **two** *out of four questions in about* 1,500 *words.*
Each question carries 10 *marks.*

1. Explain different isolation methods for pure culture of bacteria.
2. Describe genome structure of HIV, replication pathogenesis and control measures.
3. Explain the life cycle of bacteriophages.
4. Discuss about different transport mechanisms in bacteria for uptake of nutrients.

(2 × 10 = 20 marks)

Section B

Answer any **seven** *out of fourteen questions in about* 750 *words.*
Each question carries 5 *marks.*

5. Give an account on dermatomycoses.
6. Write a note on Koch's contributions.
7. Explain the phases in bacterial growth with the help of a growth curve.
8. Discuss structural properties of viruses.
9. Give an account on immunization methods.
10. Discuss the physical methods which control microbial growth.
11. Explain the ABC transport system in bacteria.
12. Discuss about major nutritional group and types of micro-organisms.
13. Explain how generation time can determined from microbial growth curve ?
14. Describe pentose phosphate pathway.

Turn over

15. Explain different methods to measure microbial growth.

16. Explain the structure and function of endospore.

17. Describe the general characteristics of a virus.

18. Discuss reproduction in fungi.

(7 × 5 = 35 marks)

Section C

Answer **all** *questions in about* 300 *words.*
Each question carries 3 *marks.*

19. Explain enrichment culture.

20. Write a note on ELISA.

21. Distinguish between Eukaryotic and Prokaryotic cells.

22. What are the factors affecting the microbial growth.

23. Brief account on Typhoid fever.

(5 × 3 = 15 marks)

Section D

Answer **all** *questions in about* 200 *words.*
Each question carries 2 *marks.*

24. Selective media.

25. Chemotherapy.

26. Dimorphic fungi.

27. CFU.

28. Inspissation.

(5 × 2 = 10 marks)