C 4374 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION APRIL 2021

Genetics

GEN 2B 02—CELL BIOLOGY

Time : Two Hours Maximum : 60 Marks

Section A

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

1. What are oncogenes ?
2. Mention any *four* functions of smooth endoplasmic reticulum.
3. Describe the functions of chloroplast.
4. Explain the structure of peroxisomes.
5. What are receptors ?
6. What are nucleoli ?
7. What is splicing ?
8. Explain any *two* methods for separating whole cell.
9. What is Balbiani rings ?
10. What is sex chromosome inactivation ?
11. Mention the structure of microtubles.
12. Describe the function of cilia.

(8 × 3 = 24 marks)

Section B

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

13. Briefly describe the function of eukaryotic cells not found in prokaryotic cells.
14. Explain the nuclear export.
15. Explain the lamp brush chromosomes.
16. Write notes on microtubule.
17. Explain adhesion junction.
18. Explain the euchromatin and heterochromatin.
19. Differentiate between meiosis and mitosis.

(5 × 5 = 25 marks)

Section C

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

20. Write an essay on principle structure and application of scanning electron micrograph.
21. Describe the structure and function of plasma membrane.

(1 × 11 = 11 marks)

C 4138 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION APRIL 2021

Genetics

GEN 2C 02—ANIMAL BIOTECHNOLOGY AND IMMUNOLOGY

Time : Three Hours Maximum : 64 Marks

Section A

Answer **all** *questions in a word* **or** *Phrase.*
Each question carries 1 *mark.*

1. What is hybrid antibody ?
2. Technology that had created Dolly.
3. What is a feeder layer ?
4. Immortalized cell line.
5. Micro carriers.
6. Karyotyping.
7. Secretary IgA.
8. Distinguish Interferon and Interleukins.
9. Dentritic cells.
10. Immunologic tolerance.

(10 × 1 = 10 marks)

Section B

Give short answer to any **seven** *out of ten questions.*
Each question carries 2 *marks.*

11. Essential instruments required for an animal cell culture.
12. Any *four* common cell line.
13. Brief note on common cell culture contaminant.
14. Explain Hayflick's Phenomenon.

15. Buffering in cell culture.

16. Characteristics of a primary culture.

17. Distinguish allotype and idiotype.

18. MALT.

19. HAT medium.

20. Delayed hypersensitivity.

(7 × 2 = 14 marks)

Section C

Answer in **a paragraph** *to any* **four** *out of six questions.*
Each question carries 5 *marks*

21. Primary cell culture methods.

22. Merits and demerits of serum in animal cell culture medium.

23. What are the factors affecting immunogenicity.

24. What are Macrophages ? Explain its role in immune response.

25. Explain different cell cytotoxicity assays.

26. Give a brief account on T-cell maturation.

(4 × 5 = 20 marks)

Section D

Write essays on any **two** *questions.*
Each question carries 10 *marks.*

27. Scaling up of monolayer culture.

28. Organs of immune system.

29. Application of animal cell culture.

30. Discuss various active and passive immunization methods.

(2 × 10 = 20 marks)

C 4136 (Pages : 2) Name.....

Reg. No.....

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

Genetics

GEN 2B 02—CELL BIOLOGY

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. In mitosis, centromere dived during ————.
2. When does DNA synthesis ends ————.
3. The power house of cell is called ————.
4. Chloroplast is found in ————.
5. The control unit of cell is ————.
6. Cell is discovered by ————.
7. The functional unit of life is called ————.
8. Chromosomes can be counted best at the stage of ————.
9. Centromere is a constituent of ————.
10. Cytoplasmic division of a cell is called ————.

(10 × 1 = 10 marks)

Section B (Short Answer Questions)

Answer any **ten** *to be answered.*
Each question carries 2 *marks.*

11. Define mitochondria.
12. What is nuclear envelope ?
13. What is difference between prokaryotic cell and eukaryotic cell ?
14. Note on electron microscope.
15. What is apoptosis ?
16. Chloroplast.

17. Define Tumor.
18. Euchromatin.
19. Short note on Cilia.
20. What is intermediate filaments ?
21. Define cell and tissue.
22. Short note on actin.

(10 × 2 = 20 marks)

Section C (Short Essay)

Answer any **five** *questions.*
Each question carries 6 *marks.*

23. Define cell cycle.
24. Explain biogenesis of cell wall.
25. Organization of chromosomes.
26. Describe the lysosomal are suicidal bags.
27. Explain about cell theory.
28. Write the principle and applications of fluorescence microscopy.
29. Difference between cilia and flagella.
30. Name a non-membranous organelle and give its function.

(5 × 6 = 30 marks)

Section D (Essay)

Answer any **two** *questions.*
Each question carries 10 *marks.*

31. Describe cell cycle and its regulation mechanism.
32. Explanatory note on cell-cell signaling.
33. Write assay on fluorescence activated cell shorting.
34. Explain the functions of endoplasmic reticulum and Golgi body with suitable diagram.

(2 × 10 = 20 marks)