

K22U 2280

Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS – OBE-Regular/Supplementary/
Improvement) Examination, November 2022

(2019 Admission Onwards)

CORE COURSE IN BIOTECHNOLOGY

5B07BTC : Animal Physiology

Time : 3 Hours

Max. Marks : 40

PART – A

Write short notes on **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark.

1. Lymph.
2. Serotonin.
3. Haemocyanin.
4. Hamberger phenomena.
5. Neuron.
6. Enteroreceptors.

(6×1=6)

PART – B

Write notes on **any six** of the following. **Each** question carries **2** marks.

7. Plasma proteins.
8. Explain Starlings law.
9. Thermoreceptors.
10. Reflex Arc.

P.T.O.

K22U 2280



11. Isometric and isotonic contraction of muscles.
12. Somatotrophic hormone.
13. Addison's disease.
14. Glucagon.

(6×2=12)

PART – C

Write short essay on **any four** of the following. **Each** question carries **3** marks.

15. Functions of blood.
16. Vagus nerve.
17. Mammalian Lungs.
18. Synapses.
19. Chemoreceptors.
20. Steroid hormones.

(4×3=12)

PART – D

Write essay on **any two** of the following. **Each** question carries **5** marks.

21. Explain in detail respiratory pigment-structure, properties functions and factors effecting oxygen binding.
22. What are audio receptors ? Explain the structure and functioning of mammalian ear.
23. Briefly describe neuronal control of muscles.
24. Describe mechanism of blood circulation in man.

(2×5=10)



K22U 2281

Reg. No. :

Name :

**V Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, November 2022
(2019 Admission Onwards)
CORE COURSE IN BIOTECHNOLOGY
5B08BTC : Plant Physiology**

Time : 3 Hours

Max. Marks : 40

PART – A

Write short notes on **each** of the following in **2 or 3** sentences. **Each** question carries **1** mark :

(6×1=6)

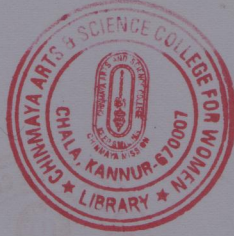
1. Stomata.
2. Gaseous phytohormone.
3. Osmosis.
4. Non-essential nutrients.
5. Endosperm.
6. Acclimation.

PART – B

Write notes on **any six** of the following. **Each** question carries **2** marks : **(6×2=12)**

7. Cryptochromes.
8. Passive and active absorption of nutrients.
9. Ascent of sap.
10. Factors affecting seed longevity.

P.T.O.



K22U 2281



11. Phytohormones that induce parthenocarpy.
12. Water potential.
13. Biological clock.
14. Translocation of photoassimilates.

Reg. No. :

Name :

PART - C

Write short essay on **any four** of the following. **Each** question carries 3 marks :

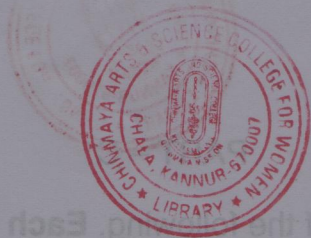
(4×3=12)

15. Photoperiodism.
16. Vernalization.
17. Factors affecting transpiration.
18. Functions of abscisic acid and gibberellins.
19. Mechanism of stomatal movements.
20. Micronutrients.

PART - D

Write essay on **any two** of the following. **Each** question carries 5 marks : (2×5=10)

21. Explain methods to break seed and bud dormancy.
22. Discuss the management of drought and temperature stresses by plants.
23. Write a note on plant movements.
24. Explain the role of phytohormones in cell division and cell elongation.



K22U 2282

Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS – OBE-Regular/Supplementary/
Improvement) Examination, November 2022

(2019 Admission Onwards)

CORE COURSE IN BIOTECHNOLOGY

5B09BTC : Genetic Engineering

Time : 3 Hours

Max. Marks : 40

PART – A

Write short notes on **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark.

1. Southern Blotting.
2. RNase inhibitors.
3. T4 DNA ligase.
4. Thermostable polymerases.
5. DNA fingerprinting.
6. T DNA.

(6×1=6)

PART – B

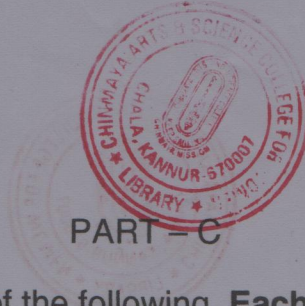
Write notes on **any six** of the following. **Each** question carries **2** marks.

7. CTAB method of plant DNA purification.
8. Binary vector system in *Agrobacterium tumefaciens*.
9. Alkaline phosphatase.
10. Biolistics.
11. GUS reporter gene.
12. Replacement v/s Insertion vectors of lambda phage.
13. Plaque lift assay for library screening.
14. Transgenic animal models.

(6×2=12)

P.T.O.

K22U 2282



PART - C

Write short essay on **any four** of the following. **Each** question carries **3** marks.

15. HAT selection.
16. Cloning in cosmid vectors.
17. Recombinant vaccines.
18. Factors to be taken care during RNA isolation.
19. Type 2 restriction endonucleases.
20. Terminator technology.

(4×3=12)

PART - D

Write essay on **any two** of the following. **Each** question carries **5** marks.

21. What are the applications of plant genetic engineering ?
22. What are the steps in the preparation of cDNA library ?
23. Narrate the principle and procedure of polymerase chain reaction.
24. What are the different techniques for animal genetic transformation ?

(2×5=10)

(6×5=15)

P.T.O.



K22U 2283

Reg. No. :

Name :



V Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, November 2022
(2019 Admission Onwards)
CORE COURSE IN BIOTECHNOLOGY
5B10BTC : Plant Biotechnology

Time : 3 Hours

Max. Marks : 40

PART – A

Write short notes on **each** of the following in 2 or 3 sentences. **Each** question carries 1 mark.

1. Totipotency
2. Callus
3. Endosperm culture
4. Explant
5. Doubled Haploid plants
6. Macerozyme.

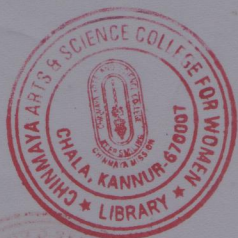
(6×1=6)

PART – B

Write notes on **any six** of the following. **Each** question carries 2 marks.

7. CaMV 35S promoter.
8. Liposome mediated transformation.
9. *In vitro* pollination.
10. Somatic hybridization.

P.T.O.



K22U 2283

- 11. Applications of meristem culture
- 12. Somaclonal variations
- 13. Direct organogenesis
- 14. Cryopreservation of plant cells and tissues.

(6×2=12)

PART – C

Write short essay on **any four** of the following. **Each** question carries **3** marks.

- 15. Cointegrate v/s binary vector system of *Agrobacterium tumefaciens*.
- 16. Application of plant cell suspension culture.
- 17. Indirect organogenesis.
- 18. Electroporation.
- 19. Terminator technology.
- 20. Plant genetic transformation markers.

(4×3=12)

PART – D

Write essay on **any two** of the following. **Each** question carries **5** marks.

- 21. What are the applications of plant tissue culture ?
- 22. What are the steps in somatic embryogenesis ?
- 23. What is the procedure of agrobacterium mediated plant genetic transformation ?
- 24. What are the methods of plant protoplast isolation ?

(2×5=10)