



K21U 4510

Reg. No. :

Name :

**V Semester B.Sc. Degree CBCSS (OBE) Regular Examination, November 2021
(2019 Admns Only)
BIOTECHNOLOGY (Core Course)
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.

(6×1=6)

1. Fatigue
2. Synapse
3. Name a neurotransmitter
4. Digestive secretion of liver
5. Spleen
6. Hemoglobin.

PART – B

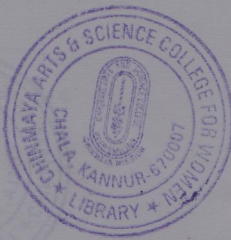
Write notes on **any six** of the following. **Each** question carries **2** marks.

(6×2=12)

7. Effect of carbon monoxide pollution in humans.
8. Give the mechanism of concentration of urine.
9. Structure of neuron.
10. Emphysema.

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11. Vital capacity.
12. Comment on Alzheimers disease.
13. Name the hormones secreted by anterior pituitary.
14. Comment on color blindness.

PART – C

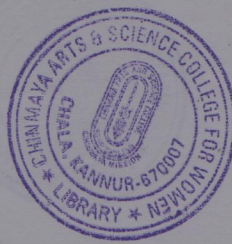
Write notes on **any four** of the following. **Each** question carries **3** marks. **(4×3=12)**

15. Working of heart.
16. Detail the light perception in human.
17. Give structure and function of striated muscles.
18. Discuss the structure of heart.
19. Hormones of pancreas.
20. Active immunity.

PART – D

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

21. Explain human circulation.
22. Detail the mechanism of muscle contraction.
23. Give an account on the calcium balance in blood by hormones.
24. Give the details of Heamatopoiesis.



K21U 4511

Reg. No. :

Name :

V Semester B.Sc. Degree CBCSS (OBE) Regular Examination, November 2021
(2019 Admn. Only)

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. Water Potential
2. Gravitropism
3. Vernalization
4. Transpiration
5. Seed dormancy
6. Ascent of sap.

PART – B

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

7. Plant growth kinetics
8. Seed longevity
9. Biological clock

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10. Nastic movement
11. Passive absorption
12. Give an account on photomorphogenesis
13. Plasmolysis
14. Translocation.

PART – C

Write short essay on **any four** of the following. **Each** question carries **3** marks. **(4×3=12)**

15. Mechanism of phototropism.
16. Artificial overcoming of seed dormancy.
17. Transpiration.
18. Senescence.
19. Physiological functions of Auxin with special mention about its commercial applications.
20. Patterns of plant growth.

PART – D

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

21. Give an account on plant movements. Briefly describe the mechanism of gravitropism.
22. How plants respond to drought stress ?
23. What is seed dormancy ? What are the methods of breaking dormancy ?
24. What is parthenocarpy and its benefits ? How it is induced artificially ?



K21U 4512

Reg. No. :

Name :

**V Semester B.Sc. Degree CBCSS (OBE) Regular
Examination, November 2021
(2019 Admns. Only)
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 : **(6×1=6)**

1. Define Restriction endonuclease.
2. Explain the essential features of plasmids.
3. Factor VIII.
4. Explain Cosmid vectors.
5. Write any two applications of PCR.
6. Explain plant selectable markers.

PART – B

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

7. Explain southern blotting and hybridization.
8. Describe expression vectors with examples.
9. Explain chain termination sequencing method.
10. Describe Transgenic animal models.
11. Differentiate between ligases and polymerases.

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12. Describe the Reverse transcriptase PCR.
13. Explain the applications of plant genetic engineering in crop improvement.
14. Describe Recombinant Vaccines.

PART – C

Write short essay on **any four** of the following. **Each** question carries **3** marks : **(4×3=12)**

15. Explain the methodology for isolation of plant RNA.
16. Describe transformation. How to identify transformants ?
17. Discuss the applications of DNA fingerprinting in forensic science.
18. Describe the automated DNA sequencing.
19. Explain Agrobacterium mediated gene transfer.
20. Differentiate between YACs and BACs vectors.

PART – D

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

21. Describe genomic library. What are the applications ?
22. Explain Genetic engineering in plants.
23. Explain the principle and types of PCR.
24. Explain the methodology involved in the production of recombinant human growth hormones.



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Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS) (OBE) (Regular)
Examination, November 2021
(2019 Admn Only)
BIOTECHNOLOGY (CORE COURSE)
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. **(6×1=6)**

1. Secondary metabolites.
2. Golden Rice.
3. Somatic hybridization.
4. Explant.
5. Auxins.
6. Androgenesis.

PART – B

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

7. Explain embryo rescue.
8. Define somatic embryogenesis.
9. Comment on artificial seeds.
10. Mention the applications of callus culture.

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11. What are somoclonones ?
12. Name two cryoprotectant used in plant tissue culture.
13. What are cybrids ? Mention its significance.
14. Write notes on cell suspension culture.

PART - C

Write short essay on **any four** of the following. **Each** question carries **3** marks. (4×3=12)

15. Comment on Totipotency.
16. What are the applications of haploid production ?
17. Give an account on the principles of agrobacterium mediated genetic transformation in plants.
18. What are the main advantages of micropropagation compared with vegetative propagation ?
19. Discuss the reasons for the escape of meristems from virus invasions.
20. Explain electroporation method of gene transfer.

PART - D

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

21. Define organ culture. Describe types of organ culture.
22. Briefly discuss the direct gene transfer methods.
23. What are the different methods of protoplast isolation ?
24. Describe the composition of widely used tissue culture media.