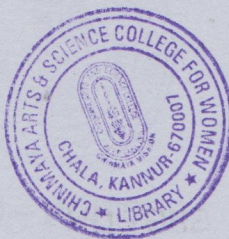




Reg. No. : .....

Name : .....



K20U 0859

**IV Semester B.Sc. Degree (CBCSS – Reg./Supple./Imp.)**  
**Examination, April 2020**  
**(2014 Admn. Onwards)**  
**GENERAL COURSE IN BIOTECHNOLOGY**  
**4A13 BTC : Basic Biophysics**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

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

**(6×1=6)**

1. What is enthalpy ?
2. What is osmotic pressure ?
3. What is dialysis ?
4. What is Tyndall effect ?
5. Define molecularity of a reaction.
6. Differentiate hypotonic and hypertonic solution.

**SECTION – B**

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

**(3×2=6)**

7. What is surface tension ? Give its biological importance.
8. Explain secondary structure of protein.
9. What is DNA super coiling ?
10. What is Hoogsteen and Reverse Hoogsteen base pairing ?

P.T.O.

K20U 0859



SECTION – C

Write short essay on **any three** of the following. **Each** question carries 4 marks.

(3×4=12)

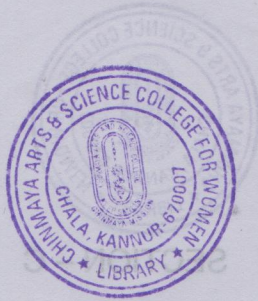
11. Explain structure of t-RNA.
12. Explain structure of ribozyme. Explain protein-nucleic acid interactions.
13. Explain biological application of colloids.
14. Describe fluid-mosaic model of cell membrane.
15. Describe bioelectric activity of neurons.

SECTION – D

Write essay on **any two** of the following. **Each** question carries 8 marks.

(2×8=16)

16. Describe laws of thermodynamics.
  17. Explain protein-nucleic acid interactions.
  18. Describe conformation of polysaccharide with an example.
  19. Explain passive and active transport process.
-



K20U 0860

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS-Reg./Supple./Imp.)

Examination, April 2020

(2014 Admn. Onwards)

GENERAL COURSE IN BIOTECHNOLOGY

4A14 BTC : Biostatistics

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in **2 or 3** sentences. **Each** question carries **1** mark. **(6×1=6)**

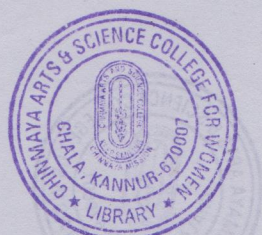
1. Spearman's rank correlation coefficient.
2. Dependent and independent events.
3. Correlation.
4. z-test.
5. Variance.
6. Standard error.

SECTION – B

Write short notes on **any three** of the following. **Each** question carries **2** marks. **(3×2=6)**

7. Cumulative frequency.
8. Pie-diagram.
9. Frequency polygon.
10. Quartile deviation.

P.T.O.



## SECTION - C

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

11. Kurtosis and skewness.
12. Measures of dispersion.
13. Find standard deviation of the following data :

<b>Class :</b>	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49
<b>Frequency :</b>	5	9	16	10	4

14. Measures of central tendency.
15. Find mode from the following data :

<b>Class :</b>	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
<b>Frequency :</b>	12	18	27	20	10

## SECTION - D

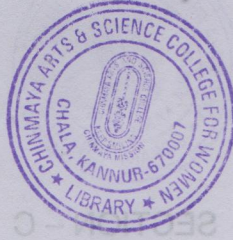
Write an essay on **any two** of the following. **Each** question carries **8** marks. **(2×8=16)**

16. ANNOVA with examples.
17. Laws of probability with examples.
18. Graphical representation of data.
19. Classification of data.



Reg. No. : .....

Name : .....



K20U 0861

IV Semester B.Sc. Degree (CBCSS – Reg./Supple./Imp.)

Examination, April 2020

(2014 Admn. Onwards)

CORE COURSE IN BIOTECHNOLOGY

4B06 BTC : Animal Physiology

Time : 3 Hours

Max. Marks : 40

SECTION – A

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

(6×1=6)

1. Growth hormone.
2. GFR.
3. HbF.
4. Mechanoreceptors.
5. Sarcoplasm.
6. Receptor potential.

SECTION – B

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

(3×2=6)

7. Diabetic mellitus.
8. Myocardial infarction.
9. Neurotransmitters.
10. Mineralocorticoids.

P.T.O.



## SECTION - C

Write short essay on **any three** of the following. **Each** question carries **4** marks.

11. Anterior pituitary cells and their hormones.
12. Action potential in cardiac muscle.
13. Explain lung ventilation.
14. Explain the energetic of muscle contraction.
15. Pinocytosis.

(3×4=12)

## SECTION - D

Write short essay on **any two** of the following. **Each** question carries **8** marks.

16. Human excretory system.
17. Cardiovascular system.
18. Explain the synthesis, control of secretion and physiological action of thyroid hormone.
19. Explain the mechanism of muscle contraction with diagram.

(2×8=16)

## SECTION - B

(3×5=15)