

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**SUBJECT: BIOTECHNOLOGY.PAPER: Biochemistry.**  
**BTCDSC151T.MARKS: 20.**

**Answer any four ( 4x5 = 20)**

- 1. Write note on classification and functions of fatty acids.**
- 2. Write note on Double helical structure of DNA and discuss about different types of DNA.**
- 3. Discuss about lock-and-key model and induced-fit model of enzymes.**
- 4. Write notes on active site, prosthetic group and co- factors.**
- 5. Discuss about classification of enzymes and factors affecting enzyme activity.**
- 6. Write note on structure of carbohydrate.**

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**SUBJECT: BIOTECHNOLOGY.PAPER: Immunology.**  
**BTCSEC151T.MARKS: 20.**

**Answer any four ( 3.5x4= 14)**

- 1. Write note on Innate Immunity**
- 2. Write note on Adaptive immunity**
- 3. Write note on Cells of immune system**
- 4. Write note on Organs of immune system**
- 5. Discuss about MHC class I and class II molecules**
- 6. Discuss about Antigen processing and presentation**
- 7. Write note on Recombinant vaccine**

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**SUBJECT: BOTANY.PAPER:CELL BIOLOGY.**  
**BOTDSC151T.MARKS: 20.**

**Write detail account on any FOUR topics as Assignment: 4x5= 20 marks.**

1. Write a brief account on Historical Background and chronological development of Cell Biology.
2. Write note on Cell, Cell Theory and Cell Types.
3. Brief mention the principle and applications of HPLC.
4. Give an account on Lysosome and Peroxisomes.
5. Briefly describe Cytosol and Golgi Complexes.
6. Write an account Structure and Functions of Nucleus.

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**SUBJECT: BOTANY.PAPER: Angiosperm Morphology & Taxonomy.**  
**BOTDSM151T.MARKS: 20.**

**Attempt any FOUR topics from the following as ASSIGNMENT. 4x5 Marks = 20.**

- 1. Write brief note on Modifications of Roots.**
- 2. Write an account on Aims and Objectives of Plant Taxonomy. Add a brief note on Binomial Nomenclature.**
- 3. Give an account on Phyllotaxy and it's Types.**
- 4. Briefly write note on Classification, it's importance and Systems of Classification.**
- 5. Give a short account on Herbarium and it's role in conservation.**
- 6. Write Briefly note on Modifications of Stems.**

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**Subject : BOTANY**  
**Paper : BOT SEC 151 T**  
**Paper name : Mushroom Cultivation**  
**Full Marks: 14**

**Write any four Assignments from the following topics:**

**5 x 3.5 = 14**

- 1) Export value of mushrooms and cost benefit ratio.**
- 2) Mushroom marketing**
- 3) Mushroom research centres.**
- 4) Steps for mushroom cultivation**
- 5) Composting technology in mushroom cultivation**
- 6) Sugarcane leaves and banana leaves as substrates for mushroom cultivation.**

**FYUG. 2<sup>ND</sup> SEM.2024**  
**UNIT TEST (ASSIGNMENT BASED).**  
**SUBJECT: BOTANY.PAPER: Biodiversity Conservation.**  
**BOTIDC151T.MARKS: 20.**

**Write any four Assignments from the following topics:**

**5 x 4= 20**

- 1) Biodiversity Act**
- 2) Protected areas**
- 3) National park, wildlife sanctuary and biosphere reserve**
- 4) Definition of biodiversity and Levels of biodiversity**
- 5) Climate change**

UNIT TEST –I( ASSIGNMENT)  
2024  
CHEMISTRY  
FYUG-2<sup>nd</sup> SEMESTER  
COURSE NO: CHMDSC-151(ORGANIC CHEMISTRY-I)  
TOTAL MARKS-20  
ANSWER ALL THE QUESTION

- 1 a) What do you mean by Fischer , Sawhorse and Newman projection formula? Give one example of each. 6
- b) How will you interconvert Sawhorse and Newman projection formula? Give example 4
- 2 a) Write Huckel's rule of aromaticity. According to this rule justify why pyrrole is an aromatic compound. 2+3
- b) Write the general mechanism of aromatic electrophilic substitution reaction. Explain why aromatic compound rarely undergo nucleophilic substitution reaction? 3+2

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UNIT TEST –I( ASSIGNMENT)  
2024  
CHEMISTRY  
FYUG-2<sup>nd</sup> SEMESTER  
COURSE NO: CHMDSM-151(FUNDAMENTALS OF CHEMISTRY-I)  
TOTAL MARKS-20  
ANSWER ALL THE QUESTION

- |   |   |     |
|---|---|-----|
| 1 | a) Write the reasons of deviation of real gases from ideal behavior.  | 2   |
|   | b) Define compressibility factor.   | 2   |
|   | c) Derive van-der-Waals' equation incorporating volume and pressure correction  | 6   |
| 2 | a) Explain the term resonance by taking suitable example. What are the essential rules for writing resonating structures?                                 | 2+2 |
|   | b) With the help of MO theory , predict the bond order and number of unpaired electrons in He <sub>2</sub> , N <sub>2</sub> and O <sub>2</sub> molecules. | 6   |

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UNIT TEST –I( ASSIGNMENT)  
2024  
CHEMISTRY  
FYUG-2<sup>nd</sup> SEMESTER  
COURSE NO: CHMIDC-151(INDIAN CHEMISTRY THROUGH THE AGES)  
TOTAL MARKS-20  
ANSWER ALL THE QUESTION

- 1 Write short notes on-  
(a) Acid rain (b) Green House effect 5+5
- 2 Write a short note on Acharya Prafulla Chandra Ray. Give a brief account of his contributions in the field of chemical research in India 5+5

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UNIT TEST –I( ASSIGNMENT)  
2024  
CHEMISTRY  
FYUG-2<sup>nd</sup> SEMESTER  
COURSE NO: CHMSEC-151(BASIC ANALYTICAL CHEMISTRY)  
TOTAL MARKS-20  
ANSWER ALL THE QUESTION

- 1 Write the detail procedure of qualitative and quantitative analysis by considering a suitable example and explain the differences between them 8+2
- 2
  - a) Discuss the composition and importance of soil 5+5
  - b) Define pH. Describe one method for the measurement of pH

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**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER APPLICATION**  
**FYUG 2<sup>nd</sup> Semester**  
**CADSC151: Data Structure**  
**Unit Test 1:: Assignment**  
**Marks: 20**

1. What is data structure? What are its different types? 2+2=4
2. What are the applications of tree data structure? 2
3. Write the difference between tree and Graph? 3
4. Explain with diagram the terminology used in trees, such as nodes, edges, root, parent, child, leaf, height, and depth. 5
5. What is a hash collision? Explain two types of collision resolution technique. 2+3=5

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER APPLICATION**  
**FYUG 2<sup>nd</sup> Semester**  
**CASEC151: Python Programming**  
**Unit Test 1 :: Assignment**  
**Marks: 14**

*Answer all the questions:*

1. Explain function in python? What are the benefits of function? 2+2=4
2. What are the Different types of function argument in python? 4
3. Write a python script to generate Fibonacci sequence. 3
4. Write a python script to check whether a particular string is palindrome or not. 3

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER APPLICATION**  
**FYUG 2<sup>nd</sup> Semester**  
**CAIDC151: Programming Fundamentals with C**  
**Unit Test 1 :: Assignment**  
**Marks: 20**

- |   |   |
|---|---|
| 1. What is Assembler?   | 1 |
| 2. Write the differences between Compiler and Interpreter?                        | 4 |
| 3. Explain High-Level and Low-Level programming languages with suitable examples. | 5 |
| 4. What are variables and constants? Give examples.                               | 4 |
| 5. Explain the different data types in C language.                                | 4 |
| 6. What is an array in C language? Explain briefly.                               | 4 |

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER SCIENCE**  
**FYUG 2<sup>nd</sup> Semester**  
**CSCDSC151: Data Structure**  
**Unit Test 1 :: Assignment**  
**Marks: 20**

1. What is data structure? What are its different types? 2+2=4
2. What are the applications of tree data structure? 3
3. Write the difference between tree and Graph? 3
4. Explain with diagram the terminology used in trees, such as nodes, edges, root, parent, child, leaf, height, and depth. 5
5. What is hashing in data structure? Mention some good characteristics of a good hash function. 2+3=5

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER SCIENCE**  
**FYUG 2<sup>nd</sup> Semester**  
**CSCSEC151: Python Programming**  
**Unit Test 1:: Assignment**  
**Marks: 14**

*Answer all the questions:*

1. Explain function in python? What are the benefits of function? 2+2=4
2. What are the Different types of function argument in python? 4
3. Write a python script to generate Fibonacci sequence. 3
4. Write a python script to check whether a particular string is palindrome or not. 3

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER SCIENCE**  
**FYUG 2<sup>nd</sup> Semester**  
**CSCDSM151: Programming with C**  
**Unit Test 1:: Assignment**  
**Marks: 20**

- |   |             |
|---|-------------|
| 1. Write a program to check whether a no is even or odd.        | 5           |
| 2. Define function in C. Explain the syntax of a function.      | 1+4=5       |
| 3. Explain Call by value and Call by reference with an example. | 2 ½ +2 ½ =5 |
| 4. What do you mean by Structure in C language? Give examples.  | 5           |

**Karimganj College**  
**Department of Computer Science & application**  
**COMPUTER SCIENCE**  
**FYUG 2<sup>nd</sup> Semester**  
**CSCIDC151: Programming Fundamentals with C**  
**Unit Test 1 :: Assignment**  
**Marks: 20**

- |   |   |
|---|---|
| 1. What is Assembler?   | 1 |
| 2. Write the differences between Compiler and Interpreter?                        | 4 |
| 3. Explain High-Level and Low-Level programming languages with suitable examples. | 3 |
| 4. What are variables and constants? Give examples.                               | 4 |
| 5. Explain the different data types in C language.                                | 4 |
| 6. What is an array in C language? Explain briefly.                               | 4 |

**Assignment**  
**Session 2023-24**  
**Ecology and Environmental Science**  
**2<sup>nd</sup> Semester**

**Assignment topics for DSM -151 (Basic Concepts of Ecology)**

**Answer any two**

**Marks: 2×10=20**

1. Give a detailed account of different types of aquatic ecosystem.
2. Give a detailed account of different types of terrestrial ecosystem.
3. Write a note on ecological succession and climax community.
4. Discuss various types of positive and negative interactions.

**Assignment topics for IDC- 151 (Natural Resources, Biodiversity Conservation and Environmental Pollution)**

**Answer any two**

**Marks:2×10=20**

1. Write a note on in – situ and ex-situ conservation of biodiversity.
2. Write a note on causes, effects and control measures of water pollution.
3. Write a note on different air pollutants and their impacts on human health.
4. Write notes on global warming and climate change.

**Assignment topics for VAC-151 (Environmental Studies)**

**Answer any two Marks: 2×10=20**

1. Give a detailed account of different types of natural resources.
2. Give a detailed account of Biodiversity of India with special reference to Northeast India.
3. Write a note on threats to biodiversity.
4. Write a note on different components of ecosystem.

**Guidelines for submission of assignment:**

1. Assignment should be written on one side of A4 size white paper leaving wide margins on both sides. Handwriting should be legible. Over writing and use of correction pen etc. are not allowed.
2. All pages should be numbered consecutively except cover page. Tables and figures should also be numbered serially.
3. At the end of the assignments reference list should be given.
4. Students should submit the assignment along with the below mentioned information on the cover page of the assignment.

**Assignment Topic:**-----

**Session:**-----

**Department:**-----

**Semester:** \_\_\_\_\_

**Subject:** \_\_\_\_\_

**Name of the paper:** \_\_\_\_\_

**Name of the student:** \_\_\_\_\_

**Roll No:** \_\_\_\_\_

**Registration No:** \_\_\_\_\_

**Contact No:** \_\_\_\_\_

**Email ID:** \_\_\_\_\_



**ASSIGNMENT: 2023-24**  
**FYUG 2<sup>ND</sup> SEMESTER (EVEN)**  
**SUBJECT: MATHEMATICS**  
**PAPER: MATDSC-151T**  
**ANALYTICAL GEOMETRY**  
**Total marks- 20**

**Answer the following questions (4 x 5=20)**

1. Show that the equation  $x^2 - 5xy + 4y^2 + x + 2y - 2 = 0$  represents a pair of straight lines whose point of intersection is at (2,1).
2. Prove that the equation  $8x^2 + 10xy + 3y^2 + 26x + 16y + 21 = 0$  represents a pair of straight lines. Find the co-ordinates of their point of intersection and the angle between them.
3. Prove that the equation  $x^2 + 6xy + 9y^2 + 4x + 12y - 5 = 0$  represents a pair of parallel straight lines and find the distance between them.
4. The gradient of one of the straight lines of  $ax^2 + 2hxy + by^2 = 0$  is twice that of the other. Show that  $8h^2 = 9ab$ .

**Assignment:**

**Session: 2023-24**

**FYUG 2<sup>nd</sup>Semester**

**Paper- Integral Calculus and Vectors (MATDSC-152T)**

**Marks: 20:**

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Answer the following questions:

1. Find  $\int \frac{x^2+x+1}{(x+2)(x^2+1)} dx$ . 5
2. Find  $\int_0^2 (x^2 + 1) dx$  as the limit of a sum. 5
3. Define scalar triple product and vector triple product of three vectors. 3
4. Give the geometrical meaning of scalar triple product. 4
5. Find the equation of a plane in normal form. 3

**ASSIGNMENT: 2023-24**  
**FYUG 2<sup>ND</sup> SEMESTER (EVEN)**  
**SUBJECT: MATHEMATICS**  
**PAPER: MATSEC-151T**  
**Mathematical Programming in C**  
**Total marks- 14**

**Answer the following questions**

1. Write the C character set. 2
2. Define constants and variables in C with examples. 4
3. Write the keywords available in C. 4
4. Write a C programming to calculate the simple interest. 4

**Assignment**

**Session: 2023-24**

**FYUG 2<sup>nd</sup> Semester**

**Paper- Calculus (MATDSM-151T)**

**Marks: 20**

**Answer the following questions**

1. If  $\lim_{x \rightarrow a} f(x) = l$  and  $\lim_{x \rightarrow a} g(x) = m$  then show that

$$\lim_{x \rightarrow a} [f(x) - g(x)] = l - m. \quad 3$$

2. Determine the constants  $a$  and  $b$  so that the function defined below is continuous everywhere - 4

$$f(x) = \begin{cases} 2x + 1, & \text{if } x \leq 1 \\ ax^2 + b, & \text{if } 1 < x < 3 \\ 5x + 2a, & \text{if } x \geq 3 \end{cases}$$

3. Show that if  $f$  is continuous at  $a$  then  $|f|$  is also continuous at  $a$  but not conversely. 3

4. Define homogeneous function of degree  $n$  in two variable with example. 3

5. If  $u(x, y) = \log(x^2 + y^2)$ , find  $\frac{\partial u}{\partial x}$ ,  $\frac{\partial u}{\partial y}$ ,  $\frac{\partial^2 u}{\partial x^2}$ ,  $\frac{\partial^2 u}{\partial y^2}$  4

6. If  $u = f\left(\frac{y}{x}\right)$ , prove that  $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = 0$  3

**ASSIGNMENT:2023-24**  
**FYUG 2<sup>nd</sup> Semester**  
**Subject: Mathematics**  
**Paper: MATIDC- 151T**  
**GEOMETRY**  
**Marks: 20**

**Answer the following questions**

1. Using distance formula, show that  $C(3, 3)$  is the center of the circle passing through the points  $A(6, 2)$ ,  $B(0, 4)$  and  $D(4, 6)$ . Find the radius of the circle. Draw picture. 3
2. Show that the three points  $(2, 4)$ ,  $(0, 1)$ ,  $(4, 7)$  are collinear. 2
3. The line segment joining  $A(6, 3)$  to  $B(-1, -4)$  is doubled in length by having half its length added to each end. Find the co-ordinates of the new end. 4
4. Show that the points  $(2, -1)$ ,  $(3, 4)$ ,  $(-2, 3)$ ,  $(-3, -2)$  are the vertices of a rhombus. 4
5. Find the equation of a circle whose diameters are  $2x - 3y + 12 = 0$  and  $x + 4y - 5 = 0$  and area is 154 square units. 4
6. Find the equation of the circle which touches the axis of x at a distance 3 from origin, whose center is in the first quadrant and cuts intercepts of length 6 on the axis of y. 3

**KARIMGANJ COLLEGE, KARIMGANJ**  
**FYUGP EVEN SEMESTER EXAMINATION, 2024**

**PHYSICS**

**UNIT TEST – I (ASSIGNMENT)**

**SEMESTER – II**

**PHYDSC – 151T**

**(Electricity and Magnetism)**

**Full Marks: 20**

**All questions are compulsory.**

*(Each question carries 10 marks.)*

1.
  - a) Define solid angle? Show that solid angle subtended by a sphere at its centre is  $4\pi$ ? 1+2=3
  - b) Under what conditions is the electric flux of a vector field through a plane surface (i) positive (ii) negative (iii) zero. 2
  - c) Write some limitations and the validity of Coulomb's law. 3
  - d) Explain how Coulomb's law is a special of gauss's law. 2
  
2.
  - a) What do you understand by Seebeck effect and Peltier effect? How can you demonstrate them? 3+(2+2)=7
  - b) State the differences between Peltier effect and Joule effect. 3

**KARIMGANJ COLLEGE, KARIMGANJ**  
**FYUGP EVEN SEMESTER EXAMINATION, 2024**

**PHYSICS**

**UNIT TEST – I (ASSIGNMENT)**

**SEMESTER – II**

**PHYDSM – 151T**

**(Mechanics, Relativity and Mathematical Physics)**

**Full Marks: 20**

**All questions are compulsory.**

*(Each question carries 10 marks.)*

1.
  - a) Define dot product and cross product of two vectors and find the expression for the angle between them. 2+2=4
  - b) Define gradient of a scalar and give its physical significance. Also find its expression in cartesian coordinate. 2+1+2=5
  - c) Show that  $\vec{A} \cdot (\vec{B} \times \vec{C})$  represents volume of a parallelopiped. 1
  
2.
  - a) What is central force? show that for a central force field motion aerial velocity is constant. 1+4=5
  - b) State Kepler's laws of planetary motion and prove Kepler's third law. 2+3=5

**KARIMGANJ COLLEGE, KARIMGANJ**  
**FYUGP EVEN SEMESTER EXAMINATION, 2024**

**PHYSICS**

**UNIT TEST – I (ASSIGNMENT)**

**SEMESTER – II**

**PHSIDC – 151**

**(Understanding the Climate)**

**Full Marks: 20**

**All questions are compulsory.**

*(Each question carries 10 marks.)*

1. What is earth's atmosphere? Explain different layers of the atmosphere. 2+5=7
  
2.
  - a) Name the temperature measuring device. Write the different principles of measurement of temperature. 1+2=3
  - b) Name the device for measurement of Pressure. Write different units of pressure. 1+1=2
  - c) What is Hygrometry? Define absolute humidity and relative humidity. 2
  
3. What is greenhouse effect? Explain the effects of global warming in terms of sea level rise, melting of glaciers, variation in monsoon patterns. 2+5=7



**KARIMGANJ COLLEGE, KARIMGANJ**  
**FYUGP EVEN SEMESTER EXAMINATION, 2024**

**PHYSICS**  
**UNIT TEST – I (ASSIGNMENT)**  
**SEMESTER – II**  
**PHYSEC – 151T**  
**(Electrical circuits and safety)**

**Full Marks: 14**

**All questions are compulsory.**  
*(Each question carries 7 marks.)*

1.
  - a) State Ohm's law. Give two examples of non-ohmic conductors. 1+1=2
  - b) State Kirchhoff's current and voltage laws. 2
  - c) 24 identical cells each of emf 2 V and internal resistance  $2\Omega$  are arranged to send current through an external resistance of  $3\Omega$ . Find the best arrangement of cells. Find also the maximum current through the external resistance. 3
  
2.

Explain the working of a half wave and full wave rectifier. Also deduce the rectification efficiency of both the types. 2+3+2=7

**KARIMGANJ COLLEGE**  
**FYUG 2<sup>ND</sup> SEMESTER ASSIGNMENT 2024**  
**SUB: STATISTICS PAPER: DSM151**  
**MARKS – 20**

1. (a) Define statistics. State the limitations of statistics. 5
- (b) Write a note on graphical distribution of a frequency distribution. 5
2. Give the classical definition of probability state and prove the multiplication theorem of probability. 10

**KARIMGANJ COLLEGE**  
**FYUG 2<sup>ND</sup> SEMESTER ASSIGNMENT 2024**  
**SUB: STATISTICS PAPER: DSC151**  
**MARKS – 20**

1. Define Binomial Distribution. Derive the mean and variance OF Binomial Distribution.10
  
2. Explain the concepts of: 2 x 5 = 10
  - (i) Conditional Probability
  - (ii) Random Variable
  - (iii) Independence of Random Variable
  - (iv) Marginal Distribution
  - (v) Conditional Distribution

**KARIMGANJ COLLEGE**  
**FYUG 2<sup>ND</sup> SEMESTER ASSIGNMENT 2024**  
**SUB: STATISTICS PAPER: IDC151**  
**MARKS – 20**

1. Define time Series. Mention the important components of time Series. 3
  
2. Explain the method of Moving Averages for the determination of trend of a time series along with its merits and demerits. 7
  
3. (i) Define Index Numbers.  
(ii) Define Weighted Index Number and hence obtain Laspeyre's index number, Paache's index number, Marshall Edgeworth index number, Fisher's index number. 10

**KARIMGANJ COLLEGE**  
**FYUG 2<sup>ND</sup> SEMESTER ASSIGNMENT 2024**  
**SUB: STATISTICS PAPER: SEC151**  
**MARKS – 14**

1. Write a note on characteristic feature of R programming. 5
2. State the uses of R in different field. 5
3. Write a note on how to load data and draw a graph in R. 4

**B.Sc 2<sup>nd</sup> Semester**  
**UNIT TEST**  
**Department of Zoology, Karimganj College**

**Paper: DSC-501( Cell Biology)**

**Q. Write assignment on the following topics; 10x2=20**

- i) Structure and function of Mitochondria
- ii) Transport across Membrane

**Paper: DSM-501( Cell Biology and Histology)**

**Q. Write assignment on the following topics; 10x2=20**

- i) Structure and function of Mitochondria
- ii) Types of Epithelial tissue and their function.

**Paper: IDC-501 (Economic Zoology)**

**Q. Write assignment on the following topics; 10x2=20**

- i) Construction and Management of ponds for Fish Culture.
- ii) Zoonotic diseases with examples.

**Paper-SEC (Medical Diagnostics)**

**Q. Write assignment on the following topics; 7x2=14**

- i) Blood and its composition and function.
- ii) Tuberculosis-its causes, symptoms and prevention.

**N.B: All the students are instructed to write the Assignment without copying from others.**