



## MONAD UNIVERSITY, HAPUR (UP)

**Programme:** B.Sc. (PCM)

**Semester:** II

**Course:** MTH-121 DIFFERENTIAL CALCULUS

Assignment No: 1

Due date of submission: 12.03.18

### Instructions:

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Program me and Enrolment No. clearly at the top of the page.

Q.1

- a) As we know that a function is continuous if it has no holes that is, if it is continuous at every point of its domain. Otherwise, a function is discontinuous, at the points where the value of the function differs from its limiting value now discuss algebra of continuous function.
- b) Describe jump of a function at a point.

Q.2

- a) A diagram showing the relation between variable quantities, typically of two variables  $x$  and  $y$  each measured along one of a pair of axes at right angles Draw the graph of the function  $f(x) = x - [x]$
- b) Gottfried Wilhelm Leibniz was a German polymath and philosopher who occupies a prominent place in mathematics having developed differential and integral calculus. We know that Differential Calculus cuts something into small pieces to find how it changes. Describe the contribution of Leibniz for Differential Calculus.



## MONAD UNIVERSITY, HAPUR (UP)

**Programme:** B.Sc. (PCM)

**Semester:** II

**Course:** MTH-122 GEOMETRY AND VECTOR CALCULUS

Assignment No: 1

Due date of submission: 12.03.18

### Instructions:

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Program me and Enrolment No. clearly at the top of the page.

Q.1 As we know that a conic section is the locus of a point which moves so that its distance from a fixed point is in a constant ratio to its perpendicular distance from a fixed straight line as the constant ratio is called the eccentricity, define the following

- a) Focus
- b) Directrix

Q.2

a) We know about the general equation of the second degree is  $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ . Is it possible the general equation of second degree represent a conic section if yes, explain your answer with proof?

b) Discuss the nature of conic if  $h^2 - ab > 0$ ,  $h^2 - ab = 0$  and if  $h^2 - ab < 0$



## MONAD UNIVERSITY HAPUR (UP)

**Programme: B.Sc.**

**Semester: II**

**Course: PHY-121 MECHANICS RELATIVITY AND WAVE MOTIONS**

Assignment No: 1

Due date of submission: 12 Mar 2018

Instructions:

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme and Enrolment No. clearly at the top of the page.

Q1.

- a) As you are aware of mass and energy equivalence. Show that both are equivalent to each other using example.
- b) As you are aware of S.H.M. Obtain the differential equation of S.H.M and find its solution.

Q2

- a) As you are aware of angular momentum. State and Explain the law of conservation of angular momentum.
- b) Write short note on:
  - (i) Time dilation.
  - (ii) Frame of reference.



## MONAD UNIVERSITY HAPUR (UP)

**Programme: B.Sc.**

**Semester: II**

**Course: PHY-122 ELECTRICITY AND MAGNETISM**

Assignment No: 1

Due date of submission: 12 Mar 2018

Instructions:

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme and Enrolment No. clearly at the top of the page.

Q1.

- a) As you are aware of electromagnetic waves .How are they produced?  
Explain how predict their existence?
- b) As you are aware of electrostatic energy .Derive an expression for electrostatic energy of a system of point charge.

Q2

- c) Explain electric dipole and electric dipole moment .Establish the formula for potential energy of electric dipole in uniform electric field.
- d) Write note on :
  - (i) Hysteresis curve.
  - (ii) Paramagnetic material.
  - (iii) Magnetic material.



## **Department of Chemistry**

### **ASSIGNMENT-1**

**Course-** B.Sc. (PCM)/(ZBC)

**Sub code-**CHE-121

**Sub-**Organic Chemistry -1

**Year-** 1<sup>st</sup> year/2<sup>nd</sup> sem

**Last date of Submission-**12/03/2018

### **Instruction**

- 1) Write the responses to the assignment in your own handwriting.
- 2) Submit the responses to your HOD within the due date.
- 3) Write your name, program and Enrollment nu clearly at the top of the page.

Q1.

- a) You are aware of different reaction mechanisms, can you explain its different types with proper examples.
- b) Fission is an important concept of reaction . Explain different types of fission reaction.

Q2.

- a) IUPAC nomenclature is used to nomenclate the organic compounds , can you give the postulates of IUPAC nomenclature .
- b) Explain physical properties and chemical reactions of alkanes.

# ASSIGNMENT-1

## ENVIRONMENTAL SCIENCE

HS-121

### Assignment No: 1

#### Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Q. 1 (a) Write the differences between Living and non-living.

(b) What is ecology?

Q. 2 (a) Define-

1. Abiotic components.
2. Biotic components.

(b) Define -Atmosphere

### Assignment No: 2

Q. 1 (a) What is the concept of ecosystem?.

(b) Draw the diagram of pyramid of energy.

Q. 2 (a) Short notes on Biosphere.

(b) What are the segments of environment?