



MONAD UNIVERSITY HAPUR (UP)

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

Semester: **IV**

Course: **MTH-221 Differential Equations and Integral Transforms**

Assignment No: **1**

Due date of submission: **01.03.2018**

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 Number clearly at the top of the page.

Q.1

(a) Solve the following differential equation:

$$\frac{d^3y}{dx^3} + 3 \frac{d^2y}{dx^2} + 3 \frac{dy}{dx} + y = e^{-x}.$$

(b) Solve the following differential equation:

$$x(x-1) \frac{dy}{dx} - y = x^2(x-1)^2.$$

Q.2

(a) Solve $\frac{d^2y}{dx^2} + (1 - \cot x) \frac{dy}{dx} - y \cot x = \sin^2 x.$

(b) Solve $p = \tan(px - y).$



MONAD UNIVERSITY HAPUR (UP)

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

Semester: **IV**

Course: **MTH-222 Complex Analysis**

Assignment No: **1**

Due date of submission: **12.03.2018**

Instructions

4. Write the responses to the assignment in your own handwriting.
5. Submit the responses to your HOD within the due date.
6. Write your Name, Programme and Enrolment Number clearly at the top of the page.

Q.1

- (c) Prove that continuity is a necessary but not a sufficient condition for the existence of a finite derivative. Also, show that the function $f(z) = xy + iy$ is everywhere continuous but is not analytic.
- (d) Prove that the function $2x - x^3 + 3xy^2$ is harmonic and find the harmonic conjugate.

Q.2

- (c) Find the bilinear transformation which maps the points $z_1 = 2, z_2 = i$ and $z_3 = -2$ into the points $w_1 = 1, w_2 = i$ and $w_3 = -1$ respectively.
- (d) Find the fixed points of the following bilinear transformations:

(i) $w = \frac{3iz+1}{z+i}$

(ii) $w = \frac{z-1}{z+1}$



Department of Chemistry

ASSIGNMENT-1

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

Sub code-CHE-221

Sub-Organic Chemistry -II

Year- 2nd year/4thsem

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 spectroscopy, explain basic concept of spectroscopy.
- b) Explain Beer-Lambert law.

Q2.

- a) Explain difference between chromophores and auxochromes.
- b) What do you understand by finger print region in IR spectrum?



MONAD UNIVERSITY HAPUR (UP)

Programme: B.Sc.

Semester: IV

Course: PHY-221 PHYSICAL OPTICS AND LASER

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) What are Coherent Sources? Discuss the important conditions for interference of light.
- b) Describe the Newton's ring method to determine the wavelength of sodium light.

Q2

- a) As you are of diffraction. Explain the Fraunhofer diffraction at a circular aperture.
- b) As you are aware of interference of light. Explain constructive and destructive interference on the basis of wave theory of light.



MONAD UNIVERSITY HAPUR (UP)

Programme: B.Sc.

Semester: IV

Course: PHY-222 RELATIVITY AND STATISTICAL PHYSICS

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.

- c) As you are aware of density of states .You are to find density of states of confined electrons in a box of length a .
- d) As you are aware of Lorentz transformation .Explain length contraction and time dilation.

Q2

- a) As you are aware of Bose Einstein condensation .Explain population inversion and show it is achieved.
- b) Write note on :
 - (i) Minkowskian space.
 - (ii) Coriolis force.

Assignment No: 1

Program: B.Sc. (PCM) IV SEM

Course Name- Fundamental of Value Education in Profession.

Course code-FVEP-221

Submission Date: 12 March, 2018

Instructions:

- 1. Write the assignment in your own handwriting.**
- 2. Submit assignment to your HOD within given time.**
- 3. Write your name , program and enrolment number clearly at the top of the Pages**

1.

A. It is now a day's commonly believed that values are decreasing. Do you agree with this statement? Please give your views.

B. Guidelines always make things better. Can you explain the basic guidelines of value education?

2.

A. Do you think that truth is necessary for everyone's life? Prepare a note on this.

B. We all have happiness and unhappiness in our life. How we can be positive in our life?