



MONAD UNIVERSITY HAPUR (UP)

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

Semester: **III**

Course: **MTH-211 Linear Algebra and Matrices**

Assignment No: **1**

Due date of submission: **11.09.2017**

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) Prove that $M_2(R)$, set of 2x2 matrices with real entries is a vector space.
- (b) Show that the set $S = \{(1,0,0), (1,1,0), (1,1,1)\}$ is a basis of $R^3(R)$, where R is field of real numbers.

Q.2

- (a) Show that the mapping $T: V_2(R) \rightarrow V_3(R)$ defined as $T(a,b) = (a+b, a-b, b)$ is a linear transformation from $V_2(R)$ to $V_3(R)$. Find range, rank, null space and nullity.
- (b) Prove that f is a linear functional on F^n , where F^n is the linear space of all ordered n-tuples of the elements of the field F .

Course: PHY 231 KINETIC THEORY AND THERMODYNAMICS

Assignment: 01

Due date of submission: 11/09/2017

Instructions:

1. Write the response to the assignment in your own handwritings.
2. Submit the response to your H.O.D. within the due date.
3. Write your name, program and enrollment no. clearly at the top of the page.

Q1 (a). Derive Vander Wall's equation of state of real gas.

Q1 (b). What are the degree of freedom? Find degrees of freedom for mono atomic gases.

Q2 (a). As you are aware of Joule-Thomson effect? Define the Joule-Thomson coefficient.

Q2 (b). Explain reversible and irreversible changes giving one example each.



Department of Chemistry

ASSIGNMENT-1

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

Sub code-CHE-211

Sub-Inorganic Chemistry

Year- IInd year/IIIrdsem

Last date of Submission-11/09/2017

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) Explain the reason that why lanthanide elements are known as d block elements..
- b)Give physical & chemical properties of lanthanide elements .

Q2.

- a)Explain the complex formation in lanthanide series by strong and weak ligands with proper example .
- b)Explain the high melting point and boiling point of lanthanide elements..



Department of Chemistry

ASSIGNMENT-1

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

Sub code-CHE-112

Sub-Physical Chemistry

Year-IInd year/IIIrdsem

Last date of Submission-11/09/2017

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) What is system and surrounding. Explain different types of system.
- b) Define & explain internal energy and enthalpy.

Q2.

- a) Explain Joule's law of thermodynamics..
- b) Explain Hess's law of heat submission and its application. .

