



MONAD UNIVERSITY HAPUR (UP)

Course: BSc (PCM)-V -SEM, Subject Name: Real Analysis

Assignment No: 1

Due date of submission: 10.11.2016

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 me, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) State and prove Cauchy's First theorems on limit.
- (b) If $\langle S_n \rangle$ be a sequence and $\lim S_n = 1$ and $\lim t_n = l$ prove that $\lim (S_n + t_n) = 1 + l$

Q2.

- (a) Find the maxima and minima of function $z = x^2 + xy + y^2 - y$.
- (b) Calculate the second-degree Taylor polynomial of

$$F(x, y) = e^{-(x^2+y^2)}$$

At the point (0, 0) and at the point (1, 2).



MONAD UNIVERSITY HAPUR (UP)

Course: BSc (PCM)-V -SEM, Subject Name: Real Analysis

Assignment No: 2

Due date of submission: 10.11.2016

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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) Is the function $f(x) = x^2$ Riemann integral on the interval $[0, 1]$? If so, find

The value of the Riemann integral.

(b). State and prove Mean value theorems of integral calculus.

Q2.

(a) If (X, d) be a metric space and M be a positive number then d^*

Defined by $d^*(x, y) = \frac{Md(x,y)}{1+d(x,y)}$ is metric.

(b) In a metric space, every open sphere is in open set.

MONAD UNIVERSITY HAPUR

Course: Elements of quantum mechanics atomic and molecular spectra

Assignment: 1

Due date of submission: 10/11/2016

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). Explain inadequacy of classical mechanics which led to birth of quantum mechanics.

Q1(b). Explain photoelectric effect from Einstein equation.

Q2(a). Explain uncertainty principle with at least four applications.

Q2(b). Explain the physical significance of a wave function. Elaborate the properties of normalized wave function.

MONAD UNIVERSITY HAPUR

Course: phy 311 Elements of quantum mechanics atomic and molecular spectra

Assignment: 2

Due date of submission: 10/11/2016

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) discuss the origin of various type of spectra obtain from diatomic molecule

Q1 (b) Explain Raman Effect by using Quantum Theory

Q2 (a) State the postulates of Bohr's Theory and deduce on Expression for the energy of the n^{th} orbit of hydrogen atom.

Q2 (b) Describe various type of quantum numbers and give their physical significance.



MONAD UNIVERSITY HAPUR (UP)

Course: BSc (PCM)-V -SEM, English Language & Communication Skills

Assignment No: 1

Due date of submission: 10.11.2016

Instruction

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, Program me, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) Write types of letters, their definitions and also give the layout of formal letter.
- (b) Define inductive and deductive method of writing a paragraph along with examples.

Q2.

- (a) Write the film review of anyone of your favorite movie in 300 words approx.
- (b) Prepare a report on Teachers' day celebrations held in your university.



MONAD UNIVERSITY HAPUR (UP)

Course: BSc (PCM)-V -SEM, English Language & Communication Skills

Assignment No: 2

Due date of submission: 10.11.2016

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 me, and Enrolment No. clearly at the top of the page.

Q.1.

- (a) Explain the process of communication through a flow chart.
- (b) Elaborate different ways to improve your communication skills.

Q2.

- (a) Write all types of noun along with their definitions and give at least four examples of each.
- (b) Write five coordinating conjunction and justify their use by making five compound sentences out of them.



ASSIGNMENT-1

Course- B.Sc PCM

Sub code-

Sub-Inorganic Chemistry Year-IIIrd year/Vthsem

Last date of Submission-06/11/2016

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 Molecular orbital theory. Give some examples.
- b)What is CFSC energy? Explain.

Q2

- a) What is crystal field theory ? Define the octahedral complex.
- b) What is Ferrocence . Give the some reaction of organometallic compound

ASSIGNMENT-1

Course- B.Sc PCM/

Sub code-

Sub-Physical Chemistry

Year-3rd year/Vthsem

Last date of Submission-06/11/2016

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) If a partical is moving in one dimensional box derive the expression for its wave function and Energy.
- b) What is Expectation value? Calculate average value of $\langle x \rangle$ and $\langle p_x \rangle$ for a partical in one dimensional box

Q2

- a)What is orthogonality? Show that for Hydrogen atom ϕ_{1s} and ϕ_{2s} are orthogonal to each other
- b) What is probability? Calculate the probability of finding the electron in the middle half of one dimensional box?