



MONAD UNIVERSITY HAPUR (UP)
(SCHOOL OF AGRICULTURE & APPLIED SCIENCES)
DEPARTMENT OF BIOTECHNOLOGY

Course: M. Tech. Biotechnology

Subject Name: Bioinstrumentation

Semester: I

Sub. Code:

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

Q.1.

- (a) Describe Principle and application of UV-visible spectrophotometry.
- (b) Describe the principle instrumentation and application of HPLC.

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Q.2.

- (a) Discuss the principle and applications of Electron microscopes.
- (b) Discuss the principle and applications of MALDI-TOF/MS.



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Course: M. Tech. Biotechnology

Subject Name: Bioinstrumentation

Semester: I

Sub. Code:

Assignment No: 2

Due date of submission: 10.11.2016

Instruction

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2. Submit the responses to your HOD within the due date.
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Q.1.

- (a) Discuss the factors affecting centrifugation.
- (b) Discuss the basic theory of paper chromatography and its applications.

Q.2.

- (a) What is the principle and application of nuclear magnetic resonance?
- (b) Describe the principle and application of flow cytometry.



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Course: M. Tech. Biotechnology
Subject Name: Biomolecules and Metabolism
Semester: I
Sub. Code:
Assignment No: 1

Due date of submission: 10.11.2016

Instruction

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Q.1.

- (a) What are difference between homo and hetero polysaccharide?
- (b) Explain Ramachandran plot.

Q.2.

- (a) Describe the structure of DNA and its components.
- (b) Describe the catabolism of unsaturated fatty acid.



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Course: M. Tech. Biotechnology
Subject Name: Biomolecules and Metabolism
Semester: I
Sub. Code:
Assignment No: 2

Due date of submission: 10.11.2016

Instruction

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Q.1.

- (a) Why ATP is called energy currency of the cell?
- (b) Explain how the products of glycolysis and the krebs cycle are related.

Q.2.

- (a) Explain beta oxidation of unsaturated fatty acid.
- (b) What are difference between de novo and salvage pathway of nucleotide synthesis?