

School of Life Sciences

B.Sc. Biotechnology Semester IV Major Assignment

Important Instructions to Student:

1. Last date for Assignment Submission – **30-May-2020**
2. This assignment carries major **weightage of 50 Marks**. Kindly prepare it very carefully and in a very detailed manner. For any help in this regard, kindly contact your faculties.
3. Front Page of Assignment should clearly include details like:
 - a. Your Name
 - b. UID Number
 - c. Subject
 - d. Class
 - e. Semester

In the event of no such information, we may not be able to assign marks for your assignment, for which responsibility lies with students.
4. You can write and submit assignment through any of the following options:
 - a. Handwritten Assignment – Prepare softcopy of your assignment through suitable apps and send the assignment as one PDF to your respective faculty as mentioned above.
 - b. Typed Assignment – Prepare Assignment with following font setting and submit the assignment to your respective faculty as mentioned above.
 - i. Font Type – Times New Roman or Arial
 - ii. Headings – Font Size 14
 - iii. Text (Except Heading) – 12
 - iv. Normal Margin and Line Spacing maximum 1.15
5. After this lockdown ends, you all have to submit the physical assignment copies to your respective Faculties. So, keep the assignment carefully for submission.
6. While submitting assignment through email, kindly use subject line as Name of the Programe_Name of Course/Branch_Semester_Name o the the Subject. For Example B.Tech._Mechanical_IV_Theory of Machines

Bioenergetics and metabolism- Prof. Afsana Dholakiya		Mode of Submission: Googel form only- https://forms.gle/UuDCGiZxFoZYLx7t5 Email: afsana.dholakiya@raiuniversity.edu Subject Line: B.Sc. BT IV BAM
1.	Explain: glucose metabolism.	
2.	Explain the TCA cycle with structure.	
3.	A. Define: Entropy, Enthalpy, Free Energy change, oxidation and reduction reaction. B. Briefly explain the Endergonic and Exergonic reaction with examples.	
4.	Describe about metabolism of amino acid.	
5.	Describe about catabolism and anabolism in detail with example.	
Genomics and proteomics- Prof. Afsana Dholakiya		Mode of Submission : Google form only- https://forms.gle/hHtZgb4oTBGMdwjx5 Email – afsana.dholakiya@raiuniversity.edu Subject Line: B.Sc. BT & B.Tech. BT IV
1.	Explain protein structure hierarchy in detail.	
2.	Explain process of protein folding.	
3.	Explain protein analysis techniques principle, procedure and application of SDS-PAGE and 2-D gel electrophoresis	
4.	Write your view on correlation of genomics and bioinformatics.	
5.	What is gene prediction? Explain methods and tools for it.	
Physical Chemistry Prof. Ravi Prajapati		Mode of Submission: Email Email: ravi.prajapati@raiuniversity.edu Subject Line: B.Tech. BT IV
1.	Describe the Lindeman’s theory of unimolecular reaction.	
2.	Explain the formation of colloid.	
3.	Explain in detail about kinetic molecules theory of gases.	
4.	Explain kinetic & optical properties of colloid.	
5.	Explain the deviation from Van der Waal’s equation.	
Fermentation Technology Prof. Rohan R. Parmar		Mode of Submission: Google Form Link: https://forms.gle/M67KyqpN4qt2Vq4n9 Email: N/A Subject Line: B.Tech. BT IV FT
1.	Briefly discuss the types of filtration in downstream processing.	
2.	Write down short note on physio-mechanical methods of cell disruption.	
3.	Give short note on design of commercial media for industrial fermentation	
4.	Write short note fermenter design	
5.	Briefly discuss the centrifuge equipments in downstream processing.	

Immunology-I Dr. Swapnaja Mahajan		Mode of Submission: Google classroom Class code 446xmuz https://classroom.google.com/w/NTUzMTcxODczOTda/tc/MTI1NjA0MTg4Mjc3 Subject Line: BTECH BT IV Immunology I
1.	Explain phagocytosis	
2.	A) Write short note on IgG with structure. B) Write short note on IgM with structure	
3.	Explain requirements for antigenicity	
4.	Describe action of antibody	
5.	Describe MHC molecules with appropriate diagram	
English Communication and Life Skills – IV Prof. Rakhi Pandey		Mode of Submission: Email Email – rbs.raiversity@gmail.com Subject Line: B. Sc. Microbiology IV ECLS-IV
1.	Explain All Forms Of Tenses In Detail	
2.	Explain 4 Stages Of Team Building In Detail	
3.	Explain The Following Interview: a. Panel interview b. Group interview c. Stress interview d. Exit interview e. Technical interview	
4.	Explain the Parts Of Speech In Detail	
5.	Explain The All Degree forms Of In Detail	

NOTE: After completing your assignments, contact your respective faculty member and submit the assignment for assessment.