

## School of Life Sciences

### B.Sc. BIOTECHNOLOGY

#### Semester II

#### 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

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| <b>Animal &amp; Plant Physiology</b><br><b>Prof. Veerendra S. Nagoria</b> |  | <b>Mode of Submission : Google Form</b><br><b>Google Form Link – <a href="https://forms.gle/A6DuLwQkQEUEWzwN57">https://forms.gle/A6DuLwQkQEUEWzwN57</a></b><br><b>File Name: UID_Your Name_AAPP</b><br><b>Subject Line: B.Sc. Microbiology/ Biotechnology II</b>  |
| 1.  | Identify 5 Plants in your nearby location. Write down their complete classification.   |  |
| 2.  | Identify 5 Medicinal Plants. Prepare a detailed report on them.  |  |
| 3.  | Write notes on any three organ system of your choice List down 3-5 major diseases associated with malfunctioning of that particular system.  |  |
| 4.  | Enlist and Explain all the theories given to elaborate fluid movement in plants.   |  |
| 5.  | Explain in detail Photosynthesis Process including reaction center, Pigments and ETC. Also explain their mechanism in C3 C4 and CAM plants. How it can be said that which plant system is more efficient?  |  |
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| <b>Basic Microbiology</b><br><b>Prof. Afsana Dholkiya</b>                 |  | <b>Mode of Submission Google form only -</b><br><b><a href="https://forms.gle/hNLawKNGyg22BCgj6">https://forms.gle/hNLawKNGyg22BCgj6</a></b><br><b>Email – <a href="mailto:afsana.dholakiya@raiuniversity.edu">afsana.dholakiya@raiuniversity.edu</a></b><br><b>Subject Line: B.Sc. Microbiology II Bacteriology</b> |
| 1.  | What do you understand by bacterial growth cycle in batch culture? Explain in details.   |  |
| 2.  | Explain Robert Whittaker's five kingdom system in details.   |  |
| 3.  | Explain Bergy's manual of bacteriology in details.   |  |
| 4.  | Define bacterial endospores and also explain sporulation of bacterial endospore with figure in details.  |  |
| 5.  | (A) Explain size, shape and arrangement of bacterial cell and also explain the cell wall of bacterial cell structure.<br>(B) Write down the difference between archaebacteria, eubacteria and eukarea.<br>(C) Explain phylogeny of Archea in details.<br>(D) What is microbial diversity and explain bacterial pilli or fimbriae, cytoplasm, mesosomes, nucleoid and intra-cytoplasmic inclusion.<br>(E) Explain culture medium in details.<br>(F) Explain nutritional types of microorganism. |  |
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| <b>BIOANALYTICAL TECHNIQUE</b>  |  | <b>Mode of Submission :Google form only –</b><br><b><a href="https://forms.gle/4rKeMDnNCfvBrNcF6">https://forms.gle/4rKeMDnNCfvBrNcF6</a></b><br><b>Email : <a href="mailto:swapnaja.mahajan@raiuniversity.edu">swapnaja.mahajan@raiuniversity.edu</a></b><br><b>Subject Line: B.Sc. BT II BM</b>                    |
| 1   | A) Explain basic rules of labrotory.<br>B) Explain steralization technique.  |  |
| 2   | A)Write short note on electrophoresis technique.<br>B) Write application of electrophoresis.   |  |
| 3   | What are the types of autoclave? Explain any one of it.  |  |
| 4.  | A) Write short note on chromatography.<br>B) Write down short note on TLC.   |  |
| 5   | Explain in datils about centrifugation technique.  |  |
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| <b>CELL BIOLOGY AND GENETICS</b><br><b>Dr. Swapnaja Mahajan</b>  |  | Mode of Submission :Google form only –<br><a href="https://forms.gle/hVcf3Xwr6nykggcu9">https://forms.gle/hVcf3Xwr6nykggcu9</a><br>Email : <a href="mailto:swapnaja.mahajan@raiuniversity.edu">swapnaja.mahajan@raiuniversity.edu</a><br>Subject Line: B.Sc. BT II BM |
| 1  | What are the stages of cell cycle? Explain diagrammatically.   |   |
| 2  | Describe fluid mosaic model of plasma membrane.  |   |
| 3  | Explain about law of dominant.   |   |
| 4  | A) Explain active transport across plasma membrane.<br>B) Explain passive transport across plasma membrane |   |
| 5  | A)What is genetic material?<br>B) Explain about recombination.   |   |
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| <b>INORGANIC CHEMISTRY</b><br><b>Prof. Nareshvari Chovatiya</b>  |  | Mode of Submission : By Email<br>E-mail ID:- <a href="mailto:nareshvari.chovatiya@raiuniversity.edu">nareshvari.chovatiya@raiuniversity.edu</a><br>Subject Line: B.Sc. BT II  |
| 1.   | Describe Heisenberg Uncertainty principle.   |   |
| 2.   | What is Hybridization? Explain in detail types of Hybridization.   |   |
| 3  | Give the chemical and physical property of Noble gases.  |   |
| 4  | Give the detail about VSEPR.   |   |
| 5.   | Define the term: electro negativity, ionization energy, Periodic trends.                                   |   |
| <b>ECLS</b>  |  | Mode of Submission: By Email<br>E-mail ID: <a href="mailto:rbs.raioniversity@gmail.com">rbs.raioniversity@gmail.com</a><br>Subject Line: B.Sc. BT II BM   |
| <b>Kindly refer below link for all questions:</b><br><a href="https://drive.google.com/drive/folders/1j7S9n6J70ZEQF_Avv9yC_-efiTGugYY1?usp=sharing">https://drive.google.com/drive/folders/1j7S9n6J70ZEQF_Avv9yC_-efiTGugYY1?usp=sharing</a> |  |   |

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