

Department of Biochemical Engineering and Biotechnology  
Indian Institute of Technology Delhi

**Instructions for lab component of BBL132 for 2019 and 2020 batches**

**Mode of conduct:** The practicals for BBL132 will be conducted from 2-5 pm (each working day of the week) in UG Lab, DBEB from Monday, 25<sup>th</sup> April 2022. For your convenience the schedule for the experiments is enclosed as Annexure 1. You will notice that we have experiments planned for 6 weeks. If possible we will accommodate the last two experiments in the 5-week semester that has been carved out. But for this, we seek your cooperation and willingness.

**Your preparedness:** It has been a while since the lectures for the course were held. You are requested to brush up the respective theory section before each practical. The handouts are available at: <http://privateweb.iitd.ac.in/~sundar/labhandouts/bbl132.html>

**Evaluation:** The total marks for evaluation is **50** of which 10 marks are for your lab record. The lab record will be checked once in the middle of the semester and then towards the end. For the remaining 40 marks you will have a quiz towards the end of the semester.

**Basic Instructions:**

\*You are required to wear your lab coats during the entire duration that you are in the UG lab for the practicals.

\*100% attendance is compulsory. *If due to any medical emergency you are forced to miss a class, we will try our best to accommodate you on any other day of the week for that particular set of experiments. But for this you need to reach out by email (shilpi@dbeb.iitd.ac.in) at the earliest (same week).*

\*You should bring your updated lab records to every practical class.

**Schedule for experiments to be conducted in Lab Semester (2021-22), BBL132P**

<b>Week</b>	<b>Experiments</b>
1 <sup>st</sup> week	To learn the principles of the microscope 1
	To prepare bacterial culture media for growth 2
2 <sup>nd</sup> week	To study morphology of bacterial organisms by simple staining and to perform Gram staining of the given bacterial cultures 3
	To study the morphotypic diversity in environmental samples 12
3 <sup>rd</sup> week	To determine total microbial population count by Neubauer's Slide method (Direct microscopic count) 4
	To determine bacterial growth curve and to perform dilution plating experiment for enumeration 6
4 <sup>th</sup> week	To study the influence of different environmental factors (pH and temperature) on microbial growth 7
	To study the anti-microbial sensitivity of antibiotics 8
5 <sup>th</sup> week	Biochemical tests for identification of microorganisms 9
	To study the effect of ultraviolet radiation on bacterial growth 10
6 <sup>th</sup> week	To study bacterial spores by staining methods 5
	To screen colonies obtained through UV mutagenesis for presence of lactose non-utilizing mutants. 11