



MBIO 240 LABORATORY SKILLS

Name: _____
I.D. No.: _____
Section: _____
Group: _____

LAB REPORTS (RECORD BOOK)

**1st Semester (1437-38H)
2016-17G**

***Prepared by
Dr. Kahkashan Perveen***

Report No.	Topic
1	Microbiology lab organization, safety and management
2	Sterilization techniques Microbiological culture media preparation
3	Medical microbiology: Isolation of Normal Micro biota from the Human Body
4	Pure culture techniques Morphology & growth: Bacterial & Fungal Characteristics
5	Staining Techniques: Smear preparation & Gram staining
6	Staining Techniques: Endospore staining
7	Effect of physical factors on microorganisms
8	Effects of Chemical Agents on microorganisms
9	Antibiotic production
10	Microbial enzymatic activity

Report 2

Microbiological culture media preparation & Sterilization technique

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

Write down the name, formula and purpose of the culture media provided in the laboratory class.

Observation table

S. No.	Name of culture media	Formula	Uses

Report 3

Isolation of normal micro biota from the human body

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

The microorganisms that constitute the **normal microbiota** of the human body are usually harmless, although some are potential pathogens or opportunists.

These latter microorganisms may cause disease under certain circumstances.

1. Choose two areas of the skin that differ in terms of moisture and degree of exposure to the outside environment.
2. Swab these areas and isolate microorganisms from each site by streaking onto nutrient agar plates. (The swabs can be moistened with sterile water).
3. Label the plate with your name, body site, date, and type of medium.
4. Incubate the plate, inverted, at 35°C for 24 to 72 hours.

Observe the agar plate after 24 to 72 hours. Take a picture of the agar plate. Select any three different isolated colonies, describe their appearance.

Observations

	Colony 1	Colony 2	Colony 3
Type of Colony (Fungi or Bacteria)			
Numbers of colonies			
Colony shape			
Colony surface			
Colony pigmentation			

Report 4

Bacterial & Fungal characteristics

Name: _____

I.D No. _____

Date: _____ **Section:** _____ **Group:** _____

Observe the permanent slides of fungi.

Draw a labelled diagram of each with the help of the book or internet and write basic characteristics of each.

Report 5

Staining techniques (Gram staining)

Name: _____

I.D No. _____

Date: _____ **Section:** _____ **Group:** _____

Perform the gram staining of the bacterial culture provided to you. Observe slides under 100x (oil immersion). Record the observation in the given table.

Observation table

Name of bacteria	Results	Shape

Name the stain or chemical used for gram staining in the table given below.

Primary stain	
Mordant	
Decolorizer	
Counter stain	

Report 6

Endospore staining

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

Observe the slide under microscope at 100x (oil immersion).

Take a picture and paste it below. Label an endospore also in the picture.

Report 7

Effect of physical factors on microorganisms

Osmotic Pressure

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

Procedure

1. With a marker, divide the bottom of each of the five petri plates into half. Place the name of the bacterium to be inoculated in each section. Add your name, salt concentration, and date.
2. Streak the respective bacteria onto the five different petri plates.
3. Incubate the plates, inverted, for 48 hours at 35°C.

Observe the relative amount of growth in each section at each salt concentration.

Record this growth as – (none), +, ++, +++, and +++++ (the most).

2. Record your results in the table given below.

Record the amount of growth of the three bacteria at the different salt concentrations in the following table.

Use – (no growth), +, ++, +++, +++++ to indicate the relative amount of growth.

Medium	<i>E. coli</i>	<i>S. aureus</i>
0% NaCl		
0.5% NaCl		
5% NaCl		
10% NaCl		
20% NaCl		

Report 8

The effects of chemical agents on bacteria

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

Measure the zones of inhibition to the nearest mm for each of the antibiotics tested. Record the results in the observation table.

Name of antibiotic	Zone of Inhibition (mm)		
	<i>Bacteria 1</i>	<i>Bacteria 2</i>	<i>Bacteria 3</i>

Report 9

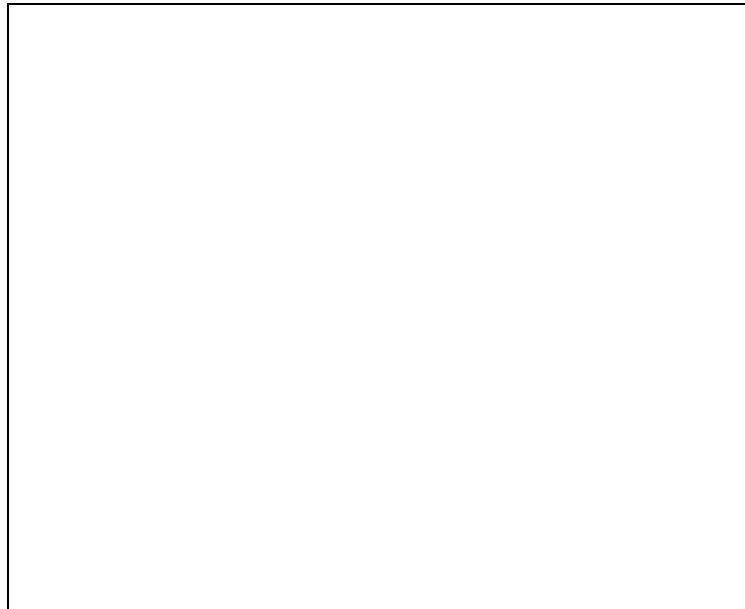
Isolation of an antibiotic producer from soil

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

After incubation observe the plate and mark the different types of organism. Take a picture and paste it below.



Question:

How many different microorganisms did you see in your soil sample?

Report 10

Microbial enzymatic activity, Catalase test

Name: _____

I.D No. _____

Date: _____ Section: _____ Group: _____

Record the result of catalase test in the given observation table

Name of bacteria	Result