

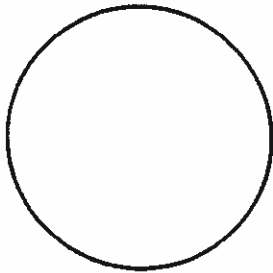
Report for Microbiology Lab 2
The Microscope

Date _____ Name _____
 Section _____ Grade: Report _____
 Quiz _____
 Total _____

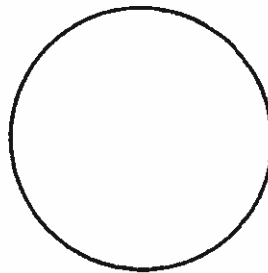
1. Have your focus checked on each of the following prepared slides,

- a. "e" at low-power _____ initials
- b. "e" at high-dry _____ initials
- c. Blood slide under oil immersion _____ initials
- d. Bacterial shapes under oil immersion _____ initials
- e. Homemade smear under oil immersion _____ initials

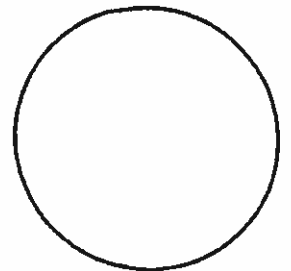
Draw the letter "e" as it appears under scanner, low-power and high-dry objectives. Show accurately the size of the "e" in the field at each magnification. Calculate total magnification.



Scanner
Magnification _____

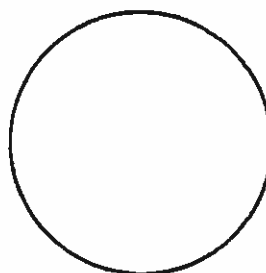


Low-power
Magnification _____



High-dry
Magnification _____

2. In the space below, draw, color correctly and label the three basic shapes of bacteria. Calculate total magnification.



Magnification _____

3. Define each of the following terms:

- a. Parfocal

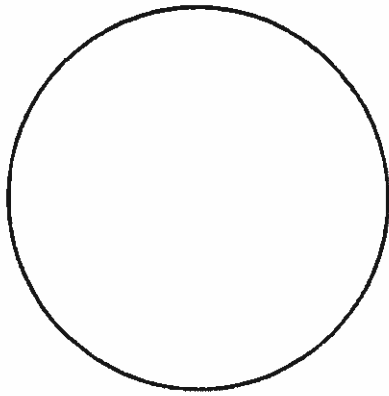
14 MICROBIOLOGY LAB MANUAL

b. Resolution

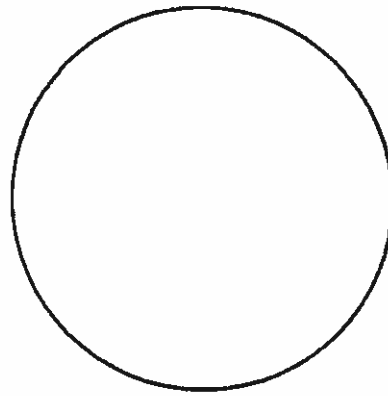
4. Before switching to a higher power objective lens, what must be the position of the specimen in the viewing field? _____
5. How should the iris diaphragm be position when using the low-power objective? _____

- For the oil immersion objective? _____

6. How many times should one turn the fine adjustment knob? _____ Why is it incorrect to tum it more than this?
7. After adding oil, switching the oil immersion objective in place, and fine adjustment, the image of the specimen cannot be visualized. Use the laboratory text to describe the procedure to get the image in focus under oil.



Type of algae _____
Name _____
Magnification _____

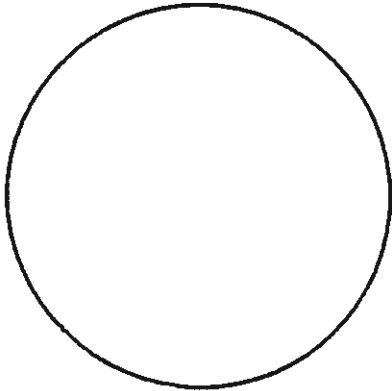


Type of bacterium _____
Name _____
Magnification _____

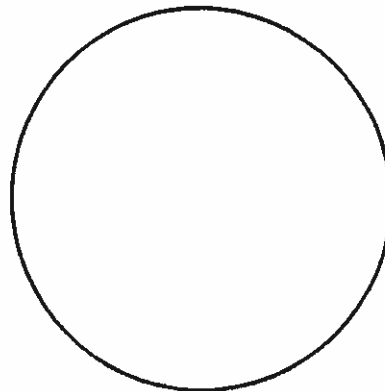
5. **Make sure you have 4 clean slides for next week's exercise** and complete any additional assignments as directed by your instructor.

Report for Microbiology Lab 4 Date _____ Name _____
Smear Preparation and Gram Section _____ Grade: Report _____
Stain Quiz _____
 Total _____

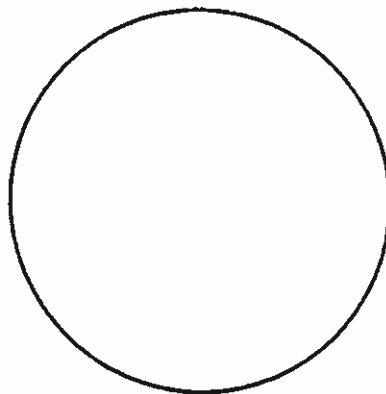
1. Have your microscope checked while your Gram stains are in focus on the oil immersion lens. Draw your specimens *correctly* in the space superior to the blanks below.



Organism _____
 Gram reaction _____
 Morphology _____
 Mag. _____ Initials _____



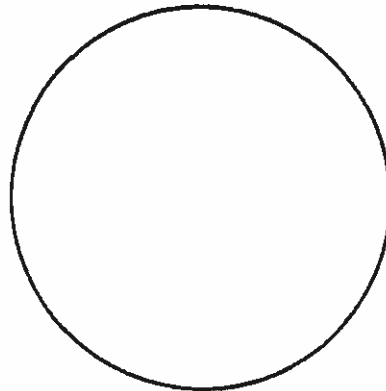
Organism _____
 Gram reaction _____
 Morphology _____
 Mag. _____ Initials _____



Organism _____
 Gram reaction _____
 Morphology _____
 Mag. _____ Initials _____

Report for Microbiology Lab 5 Date _____ Name _____
Acid-Fast Stain, Capsules Section _____ Grade: Report _____
Bacterial Endospores Quiz _____
 Total _____

1. Make a drawing that accurately reflects the shape and color of both organisms used to make the acid fast preparations. Color correctly and label both organisms with their complete scientific names. Indicate which is acid fast and which in non-acid-fast.

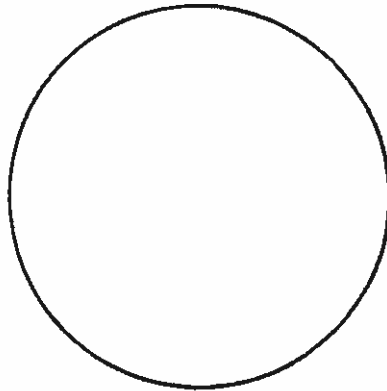


Magnification _____

Initials _____

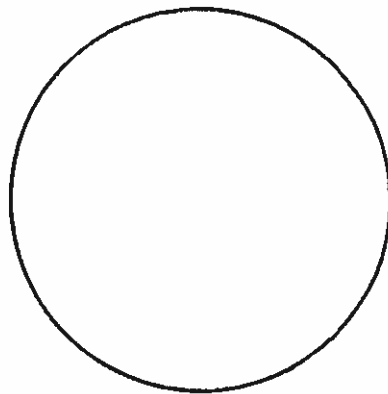
2. What method did we employ in performing the acid-fast stain?
3. What step is most critical in the acid-fast stain?
4. Name 2 genera of bacteria that contain acid fast organisms.
5. What is the function of bacterial endospores?

6. In the space below, draw the demonstration slide of bacterial endospores. Color them correctly and label vegetative cells and endospores.



7. What is the function and composition of bacterial capsules?

8. In the space below, draw the demonstration of bacterial capsules. Color correctly and label the capsule and the contained bacillus.



ASEPTIC TECHNIQUE PRACTICAL

Name _____ Section _____ Grade _____

General: 1) Wash Hands (2x) _____

2) Scrub Table (2x) _____

Broth to Broth Transfer

Light burner _____

Agitate culture _____

Flame loop _____

Hold closures _____

Flame lip of the tube _____

Make transfer _____

Reflame lip and close _____

Reflame loop _____

Streak Plate

Light burner _____

Agitate culture _____

Flame loop _____

Hold closure _____

Flame the lip of the tube _____

Obtain inoculum _____

Reflame lip and close _____

Open slightly for streak one _____

Flame loop _____

Open slightly for streak 2 _____

Flame loop _____

Open slightly for streak 3 _____

Flame loop _____

Invert plate _____

Comments:

Report for VC Micro Lab
Exercise 8
Biomechanical Char.
Carbohydrate Ferm, Starch
Digestion, DNA Hydrolysis,
Urea Hydrolysis, and Triple
Sugar Iron Agar

Date _____ Name _____
 Section _____ Grade: Report _____
 Quiz _____
 Total _____

1. Provide the biomechanical reaction for each of the following:

a. Starch hydrolysis

b. DNA hydrolysis

c. Carbohydrate fermentation

d. Peptone utilization

e. Urea hydrolysis

f. Hydrogen sulfide production and the production of iron sulfide

2. Using results obtained during pick-up lab fill in the following:

<i>Organism</i>	<i>Starch hydrolysis (+ or -)</i>	<i>Initials</i>
_____	_____	_____
_____	_____	_____

In the space below, draw and color accurately the results seen on your starch agar plate. Indicate which results are positive and which are negative.

3. Record the results of your DNAase test.

<i>Organism</i>	<i>DNAase (+ or -)</i>
_____	_____
_____	_____

Draw the results of your DNAase in the space below. Label positive and negative results.

4. Record the results of your Durham carbohydrate fermentation tubes.

<i>Organism</i>	<i>Glucose</i>	<i>Sucrose</i>	<i>Lactose</i>
_____	_____	_____	_____
_____	_____	_____	_____

In the space below draw and color accurately, **all the possible results** in carbohydrate fermentation tests with Durham tubes.

5. Record the results of your urea hydrolysis tubes.

Organism

Urease (+ or -)

Draw and color accurately the *possible results* of urea hydrolysis. Indicate which tube is positive and which is negative.

6. Record the results of all TSI slants

Organism

Results

_____	_____
_____	_____
_____	_____
_____	_____

In the space below draw and color accurately *all possible* results with TSI.

Report for Microbiology Lab 9 Date _____ Name _____
MacConkey, IMViC Series Section _____ Grade: Report _____
 Quiz _____
 Total _____

1. Write a biochemical reaction for each of the following:

a. Lactose fermentation on MacConkey agar

b. Indole production

c. Methyl red

d. Voges-Proskauer

e. Citrate utilization

2. Record the results seen on your MacConkey agar plate.

<i>Organism</i>	<i>Results</i>
_____	Growth _____
	Lactose _____
	Gram _____
_____	Growth _____
	Lactose _____
	Gram _____
_____	Growth _____
	Lactose _____
	Gram _____

3. In the space below, draw and accurately color the results of your MacConkey agar plate. Label the Gram reaction, lactose fermentation, and growth (positive or negative).

4. Record the results of your IMViC series.

	<i>Escherichia coli</i>	<i>Enterobacter aerogenes</i>
Indole	_____	_____
Methyl red	_____	_____
Voges-Proskauer	_____	_____
Citrate	_____	_____

5. Draw and color accurately all the possible results for each test in the IMViC series. Indicate which is positive and which is negative.

a. Indole test

b. Methyl red test

c. Voges-Proskauer test

d. Citrate test

MIDTERM PRACTICAL EXAM ANSWER SHEET

Name _____

1. _____

20. _____

2. _____

21. _____

3. _____

22. _____

4. _____

23. _____

5. _____

24. _____

6. _____

25. _____

7. _____

26. _____

8. _____

27. _____

9. _____

28. _____

10. _____

29. _____

11. _____

30. _____

12. _____

31. _____

13. _____

32. _____

14. _____

33. _____

15. _____

34. _____

16. _____

35. _____

17. _____

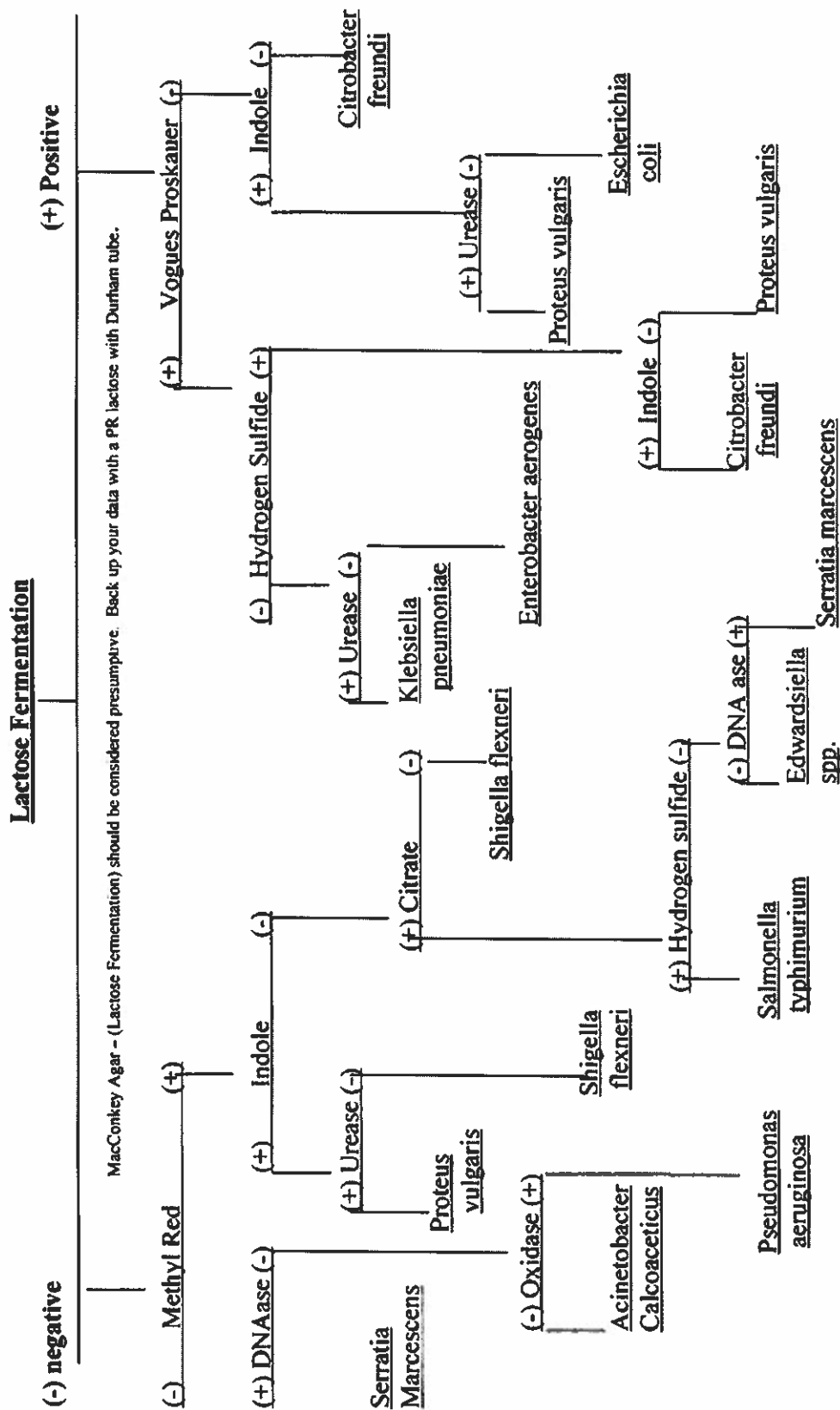
36. _____

18. _____

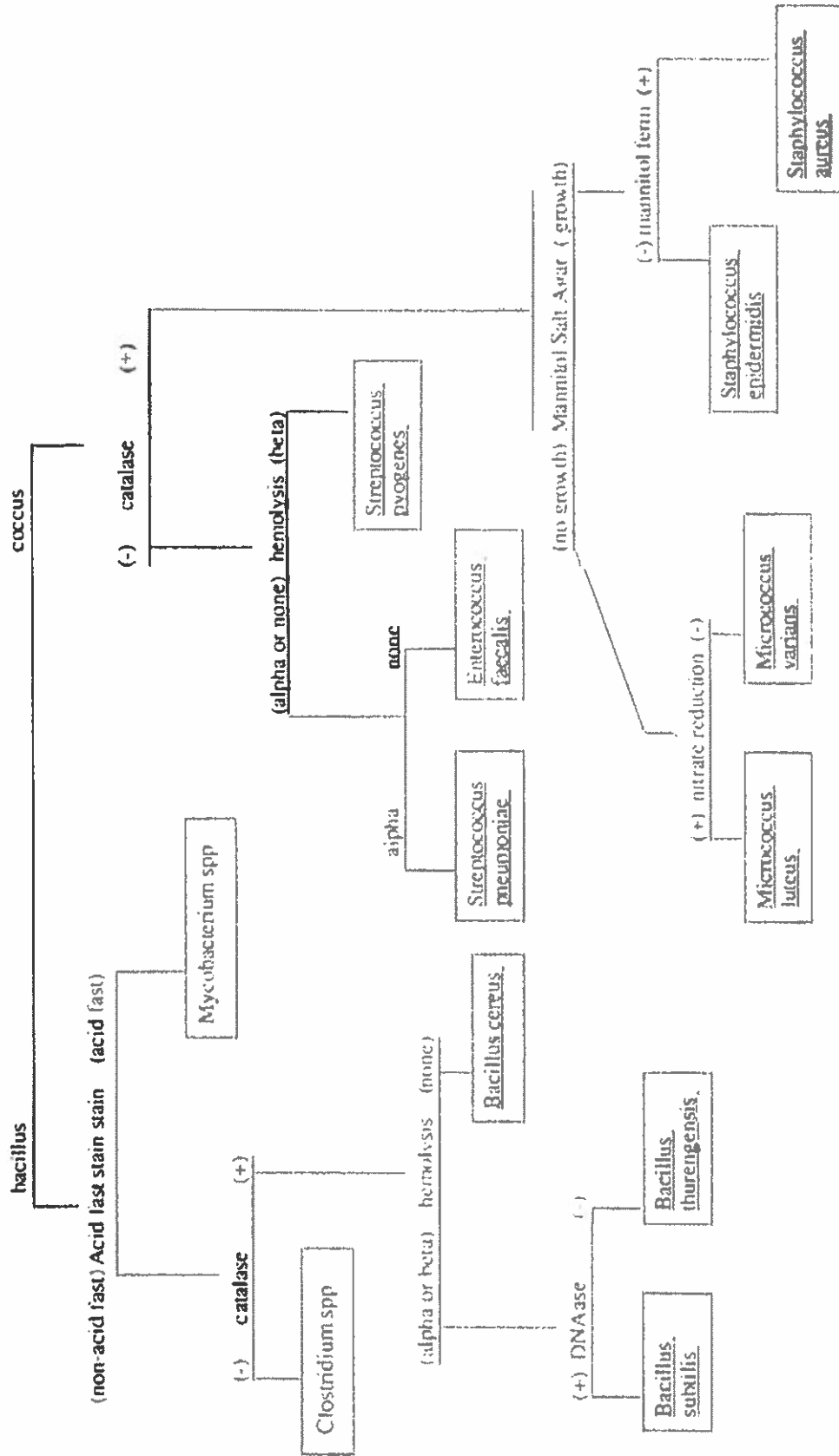
37. _____

19. _____

FLOW CHART FOR THE GRAM NEGATIVE BACILLI



FLOW CHART FOR THE GRAM POSITIVE BACTERIA



Microbiology Lab
Unknowns Report Form

 Date _____ Name _____
 Section _____ Grade: _____
 Unknown number _____
 Initials _____

Morphological Characteristics:

 Cell shape _____
 Gram reaction _____
 Acid Fast stain _____

Cultural Characteristics:

 Colony shape _____
 Colony margin _____
 Texture of surface _____
 Pigment _____

Physiological Characteristics:

 Catalase _____
 Citrate _____
 DNAase _____
 Voges-Proskauer _____

Phenol red Durham tube fermentation:

 Lactose _____
 Hemolysis _____
 H₂S (TSI) _____
 TSI reaction _____
 Indole _____
 Methyl red _____
 Nitrate reduction _____
 Oxidase _____

MacConkey agar:

 Growth _____
 Lactose _____

Mannitol Salt agar:

 Growth _____
 Mannitol _____

PEA _____

Urea hydrolysis _____

NAME OF ORGANISM _____

**Microbiology Lab
Unknowns Report Form**

Date _____ Name _____
 Section _____ Grade: _____
 Unknown number _____
 Initials _____

Morphological Characteristics:

Cell shape _____
 Gram reaction _____
 Acid Fast stain _____

Cultural Characteristics:

Colony shape _____
 Colony margin _____
 Texture of surface _____
 Pigment _____

Physiological Characteristics:

Catalase _____
 Citrate _____
 DNAase _____
 Voges-Proskauer _____

Phenol red Durham tube fermentation:

Lactose _____
 Hemolysis _____
 H₂S (TSI) _____
 TSI reaction _____
 Indole _____
 Methyl red _____
 Nitrate reduction _____
 Oxidase _____

MacConkey agar:

Growth _____
 Lactose _____

Mannitol Salt agar:

Growth _____
 Mannitol _____

PEA _____

Urea hydrolysis _____

NAME OF ORGANISM _____