

## Class Assignment 03

By Mohammad Abubakar Atiq, F2022031002, BS Industrial Engineering, Apparatus of Material Engineering Lab.

Subject: TECHNICAL REPORT WRITING AND PRESENTATION SKILLS

Instructor: Hira Syed

## User Manual of Metallurgical Microscope

### Contents

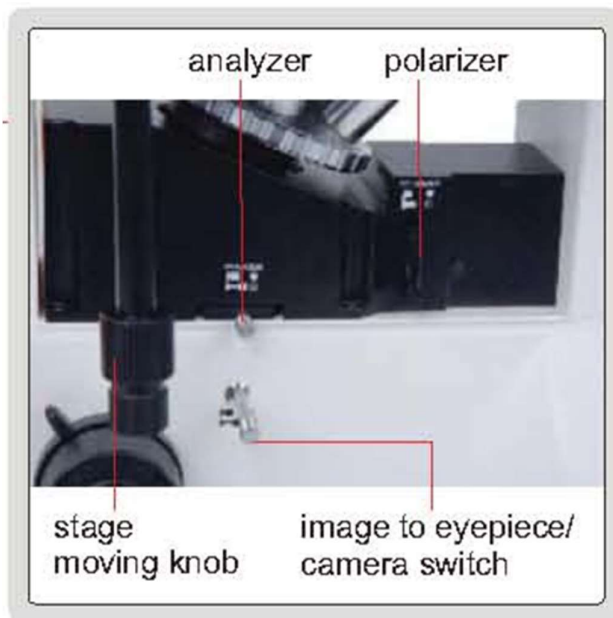
Class Assignment 03.....	1
User Manual of Metallurgical Microscope.....	2
Components after assembly .....	4
Specifications of M.M (Metallurgical Microscope) .....	5
Materials Specimen Conditions .....	5
Procedure:.....	5
QR CODE ALL FILES.....	7



## MANUALS

## SPECIFICATION

Code	5103-M1000 (bright field objectives)				5103-M1000BD (bright & dark field objectives)			
Illumination	6V/30W halogen lamp, brightness is adjustable				12V/50W halogen lamp, brightness is adjustable			
Objective (Infinite plan achromatic)	bright field objectives				bright & dark field objectives			
	10X	20X	50X	100X	5X	10X	20X	50X
Working distance	20.2mm	8.80mm	3.68mm	0.40mm	9.70mm	9.30mm	7.23mm	2.50mm
Numerical aperture	0.25	0.40	0.70	0.85	0.12	0.25	0.40	0.70
Magnification	100X~1000X				50X~500X			
Eyeiece (wide field)	10X (view field: Ø22mm)							
Stage	double layer							
	size: 242×200mm							
	travel: 30x30mm							
Pupil distance	53~75mm							
Diopter adjustment	±5 diopter (one eyepiece)							
Power supply	220V, 50/60Hz							
Dimension (L×W×H)	614×250×394mm							
Weight	13kg							



## OPTIONAL ACCESSORY

Bright & dark field objective (for 5103-M1000BD)	PL40X	5101-M-BD40X
	PL60X	5101-M-BD60X
	PL80X	5101-M-BD80X
	PL100X	5101-M-BD100X
10X dividing eyepiece (0.1mm/div.)		5103-M-EPD10X
Bright field objective (for 5103-M1000)	PL5X	5101-M-OB5X
	PL40X	5101-M-OB40X
	PL60X	5101-M-OB60X
	PL80X	5101-M-OB80X
Digital camera		ISM-CM63
Camera adapter *		5101-M-ADAPTER

\* Digital camera must be used with camera adapter

## Components after assembly

1. Stage
2. Rotary table
3. Illumination
4. Polarizer filter {frosted glass/yellow/green/blue}
5. Aperture diaphragm
6. View field diaphragm
7. Objective turret with five holes
8. Camera connector
9. Coarse focusing knob
10. Fine focusing knob
11. WF10X eyepiece

## Specifications of M.M (Metallurgical Microscope)

Company: Insize, [www.insize.com](http://www.insize.com)

CODE: ISM-M1000-P

Input: 220V, 50Hz

Serial No: 100414401

## Materials Specimen Conditions

Specimen after or before quenching, annealing and normalizing.

## Procedure:

1. Switch on the power supply
2. Make sure lamp is active.
3. Adjust the light coming from the lamp.



Lamp

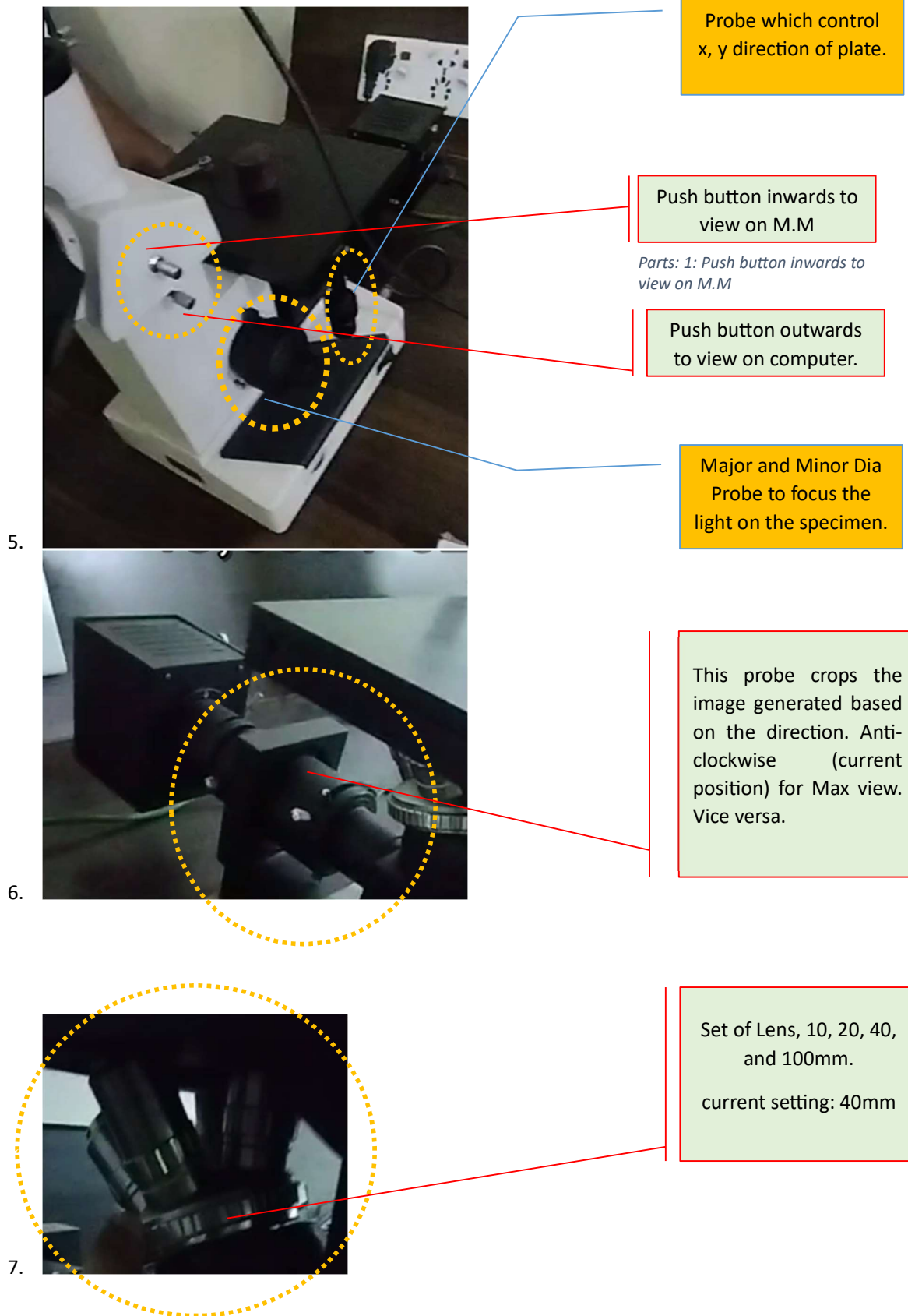
Specimen before or  
after treatment on  
plate.

Power  
Switch

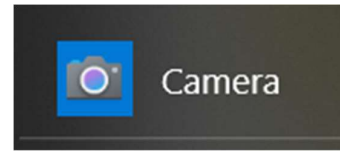
From this probe

4. Adjusts filters (blue, green, orange). Which color combination person operating wants to see on the specimen.

MANUALS

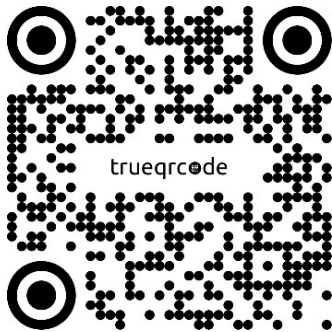


8. After connecting M.M, to your laptop make sure to select front camera options.
9. From control panel>hardware and device manager, “camera-x8” is available.
10. You are ready to do the analysis.



See following videos to get the more insight into digital microscope.

#### QR CODE ALL FILES



0-1:Google Drive



0-2: Youtube Videos Playlist

