



STANDARD OPERATING PROCEDURE

Department: Microbiology	SOP No.:
Title: Operation and Cleaning of Binocular Microscope	Effective Date:
Supersedes: Nil	Review Date:
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1.0 OBJECTIVE:

To lay down a procedure for Operation and Cleaning of Microscope.

2.0 SCOPE:

This SOP is applicable for Operation and Cleaning of Microscope installed in Microbiology laboratory of Quality Control department.

3.0 RESPONSIBILITY:

Microbiologist-Quality Control

4.0 Head- Quality Control

4.1 Operation:

- 4.1.1 Connect the plug to main power socket and switch ON the mains to the instrument and switch ON the lamp.
- 4.1.2 Adjust the intensity of the light by turning the knob provided at base of Microscope.
- 4.1.3 Adjust the condenser by raising or lowering it.
- 4.1.4 Fix the slide in position on the stage.
- 4.1.5 Turn the low power (4xs) objective into position. Make sure it has clicked into position.
- 4.1.6 Lower the condenser as low as possible and open the iris diaphragm wide.
- 4.1.7 Gradually raise the mechanical stage till the objective is almost touching the slide.
- 4.1.8 Then looking through the eyepiece and using the coarse adjustment knob lower the mechanical stage so as to bring the object roughly into focus.
- 4.1.9 By using the fine adjustment knob bring the object sharply into focus.
- 4.1.10 Make any final adjustment with the condenser and iris diaphragm.
- 4.1.11 If the high power objective is to be used, rotate the eyepiece until the high power objective occupies the position of the low power objective. Then use the coarse and fine adjustment knobs to focus the object The light should be adjusted by manipulating the condenser (raising it) and the diaphragm.
- 4.1.12 Sharpen the focus using fine adjustment knob.



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4.1.13 If a cover slip is necessary it should be very thin or else it may not be possible to bring the objective close enough to focus the object.

4.1.14 Use of oil immersion lens:

- A. After focusing the object under low power, turn the eyepiece and put the oil immersion objective in place.
- B. Place a drop of oil (cedar wood) on the slide.
- C. Gradually raise the mechanical stage till the oil drop touches the objective and just flattens it, without touching the object itself.
- D. During this procedure the objective should be viewed from the side with the eyes on level with the slide.
- E. Now look down the ocular and slowly lower the mechanical stage by means of the coarse adjustment knob until the object is just in view.
- F. Then using the fine adjustment knob bring the object into focus.

Note: 100 x objective is used only as an oil immersion lens.

4.2 In case instrument is not working satisfactory inform to Quality Control Head for further action.

4.3 Cleaning:

4.3.1 Before using check that the objectives, eyepieces and all external parts of the microscope are clean.

4.3.2 Clean the magnification objectives and Clean the surface of small concave front lens with a lint free cloth or tissue paper.

4.3.3 Wipe the outer surfaces of the microscope with lint free duster.

4.3.4 Wipe the underneath portion of the oil immersion lens with a fast absorbing tissue paper or cloth before and after using the lens.

4.3.5 Clean the 100X oil emulsion objective after each use.

4.3.6 Maintain the cleaning records in logbook as per reference Annexure – I.

4.3.7 Record the operation activity in log book as per Annexure- II.



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5.0 ANNEXURE(S):

Annexure –I : Equipment cleaning Record
Annexure –II: Log book of Microscope

6.0 REFERENCE (S):

Nil

7.0 ABBREVIATION (S)/DEFINITION (S):

QC : Quality Control

QCM : Quality Control Microbiology

REVISION CARD

S.No.	REVISION No.	REVISION DATE	DETAILS OF REVISION	REASON (S) FOR REVISION	REFERENCE CHANGE CONTROL No.
1	---	---	-----	New SOP	-----



PHARMA DEVILS
MICROBIOLOGY DEPARTMENT

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Annexure I

MEDIA PREPARATION, CONSUMPTION & GROWTH PROMOTION RECORD

Name of Media:				pH meter ID No:				Autoclave ID. No:				
Date	Batch No. (Container No)	Media Ref. No.	Qty Used (gm)	Volume Prepared (ml)	Sterilization Load No.	pH After Sterilization	Balance Qty (gm)	Micro Organism used	Observation			
									Date	+ve	Date	-ve

*New container issued

Checked By:
Review By:



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Annexure II

SPECIMEN LABEL FOR MEDIA PREPARATION AND STERILIZATION

**MEDIA PREPARATION AND
STERILIZATION LABEL**

Name of Media :

Date of preparation :
Lot No. :
Use Before :
Sign :



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Annexure III PHYSICAL OBSERVATION OF PRE-INCUBATED STERILE MEDIA

NAME OF MEDIA:							Cat. No.:	
Date of Preparation	Lot Number Allotted	Date of Observation	Observation of physical parameter				Media Lot. Accepted / Rejected	Checked By
			Cracked or Dimpled surface	Excessive number of bubbles	Medium colour Darkening /Changes	Filled volume		

Acceptance Criteria:

There should not be observed the cracked or dimpled surface, Excessive number of bubbles, change in colour of media or darkening of medium and less filled volume.