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INSTRUMENT STANDARD OPERATING PROCEDURE MANUAL

College of Medicine



SAFETY AND LABORATORY COOMMITTEE, C.O.M, K.F.U.

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Revision Number	Approved by		
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Write the revision number	Department:		

Document History

Document Section	Details of Amendments	Date	Modified by (Initials)
SOP	First Draft on SOP for the operation of SCANNING ELECTRON MICROSCOPE -JSM-6390LA- (ANALYTICAL SCANNIG EM)		

1. OBJECTIVE

- ☐ The document describes the operation of **SCANNING ELECTRON MICROSCOPE -JSM-6390LA-(ANALYTICAL SCANNING EM)**

2. SCOPE

- ☐ Full automated software processor system .
- ☐ After specimen processing ,the specimen must be coated by using Auto Fine Coater (JFC 1600) EITHER PLATINUM OR GOLD depend on the processing method.
- ☐ Used to scanning a 3D image for biologic ,forensic, food, dentist and even insects) specimens.
- ☐ Analysis of the electrolytes component of the specimens
- ☐ Accelerating voltage 40 to 100Kv.
- ☐ Magnification mode SAP 10B :800- 600,000 TIMES

3. RESPONSIBILITIES

- ☐ It is the responsibility of designated personnel in the lab to train staff and students on this procedure and to ensure adherence to this procedure under supervision.
- ☐ It is the responsibility of designated personnel (staff or Student) to follow the instructions of this procedure under supervision.

4. REFERENCES

- ☐ It is the responsibility of designated personnel in Research lab to train staff and students on this procedure and to ensure adherence to this procedure under supervision.
- ☐ It is the responsibility of designated personnel (staff or Student) to follow the instructions of this procedure under supervision.

5. DEFINITIONS

- ☐ **SCANNING ELECTRON MICROSCOPE -JSM-6390LA** closed fully automated controlled programming software.

6. SAFETY PRECAUTIONS

- ☐ Do not remove the grounding wire ,it may cause electric shock.
- ☐ Do not dismount or reassemble thhe microscope column.
- ☐ Any abnormalities occur immediately shut down and contact the JEOL ENGIENEER .
- ☐ Do not touch the Wehnrlt to avoid the electric shock.
- ☐ Do not put your hand between the upper and lower electron gun chambers.
- ☐ Before starting be sure the gun lift and lens power set as ON.

7. PROCEDURE FOR OPERATING SCANNING ELECTRON MICROSCOPE -JSM-6390LA

7.1. Turning on the instrument:

- ☐ On power supply
- ☐ Turn on machine and sublayer

7.2. Software Operation.

7.3. Steps of the Procedure

- ☐ **Turning on the regulation power supply (Leave it overnight).**
- ☐ Turn On the control panels (L-R,CL,PF).
- ☐ Open the compressed air pressure(0.28-0.47)MPa.
- ☐ Open the main valve of cooling water supply .
- ☐ Check the personal file for the operating condition.
- ☐ Place the specimen holder onto the specimen holder stand.
- ☐ Loading the films into a dispensing magazine. And place the magazine be into of camera chamber
- ☐ Set the voltage value for the electron beam – for biologic samples is 80Kv (maximum voltage is 100 Kv
- ☐ Align the condenser lenses.
- ☐ Inserting the CONDENSER LENSE into the beam path.
- ☐ Condenser lens astigmatism correction
- ☐ Obtain the filament image.
- ☐ Adjust the specimen by using goniometer.

7.4. Turning off the Instrument

END OF PROGRAM

- ☐ **To turn off the instrument.**
- ☐ Unload the samples
- ☐ Turn off the software.
- ☐ Turn off the control panel..
- ☐ Turn off the electric main power source.
- ☐ Wait for 15 minutes
- ☐ Cut the power from the control panel.

7.5. Warning

Write any the warning in BOLD and RED FONT.

