

Meeting Minutes

Date: 23.08.2021

Departmental meeting was held in the Principal's Chamber on 23.08.2021. After discussing with the Principal F/c and the students of BSc B7c, the following were resolved:

1. to enrich the existing curriculum by initiating a Certificate course on Light Microscopy, for the benefit of students in this academic year.
2. to prepare a proposal seeking permission to initiate the course and should be submitted to the principal within two days.
3. Details of the course:

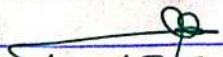
Course duration: 30 days

Student intake : 20-30

Formative assessment : 15 marks (Objective)

Summative assessment : 25 marks (Objective).

~~Signature~~
Course Coordinator


Principal Incharge
PRINCIPAL (F.A.C)
S.CH.V.P.M.R. Govt. Degree College
Accredited 'B' by NAAC
GANAPAVARAM (W.G.Dt.)

Student Representatives

1. D. Esther Manjulaani - Emani
2. S. Thansi Lakshmi - Thansi Lakshmi

Date: 24.8.2021

From

Dr Ch.Chaitanya
In-charge, Dept. of Botany
SCHVPMR Govt. Degree College
Ganapavaram

To

The Principal
SCHVPMR Govt. Degree College
Ganapavaram

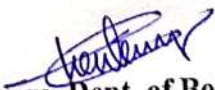
Sub: Curriculum Enrichment for 2020-21 - Dept. of Botany- Proposal for starting a Certificate Course in Light Microscopy - Request for permission - Reg.

This is to submit that the Dept. of Botany is proposing to start a Certificate Course in "Light Microscopy" during the academic year 2020-21 so as to enrich the existing curriculum for the benefit of the students. Hence, this proposal is submitted seeking your permission.

Course duration:	30 to 40 days
Student intake:	20 to 30
Name of Faculty:	Dr. Ch.Chaitanya
Formative Assessment	15 marks (objective type)
Summative Assessment	25 marks (objective type)
Qualifying mark	15

Objectives:

- ❖ To enrich the curriculum for the development of students
- ❖ To develop an understanding of the basic concepts and principles of Light Microscopy


In-charge, Dept. of Botany



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



Proceedings of the Principal (FAC), SCHVPMR Govt. Degree College, Ganapavaram

Present: Dr M. Syambab, M.Sc., Ph. D.,

Rc.No.21/1/CC-20-21

Dated. 26.8.2021

Sub: Dept. of Botany - Proposal for Certificate Course in **Light Microscopy** for the academic year 2020- 21- Permission granted - Orders issued - Reg.

The Principal, SCHVPMR Govt. Degree College, Ganapavaram is pleased to grant permission to launch a Certificate Course in "**Light Microscopy**" by the Department of Botany during the academic year 2020-21. The In-charge, Department of Botany is requested to follow the due procedure for conducting the said course and submit a report thereof.

PRINCIPAL
PRINCIPAL 26/8/21
S.CH.V.P.M.R.Govt.Degree College
GANAPAVARAM-534198. (W.G.Dist.)



Circular

Date: 28.08.2021

All the students of BSc. BZC are hereby informed that the Dept. of Botany is going to start a certificate course in "Light Microscopy" from 01.09.2021.

Hence, all of you are suggested to enroll for the course and make use of it.

- * Enrollment forms will be shared with you soon.
- * A copy of course syllabus is enclosed herewith

Course Design:

- Name of the Course: Light Microscopy
- Duration : 30 days.
- Course starts on : 01.09.2021
- Timings: 4.30 to 5.30pm
- Formative assessment :- 15 marks (Objective)
- Summative assessment: 25 Marks (Objective)
- 75% of attendance is mandatory to give the final test.
- Qualifying mark is 15 out of 25 (Summative test).
- Students who score 15 (or) above will be provided with course completion certificate.

~~Signature~~
Course Coordinator

BSc BZC

II III


Principal 28/08/21
 PRINCIPAL (F.A.C)
 S.CH.V.P.M.R. Govt. Degree College
 Accredited "B" by NAAC
 GANAPAVARAM (W.G.Dt..)



**S Ch V P M R GOVERNMENT DEGREE
COLLEGE. GANAPAVARAM**



DEPARTMENT OF BOTANY

Certificate Course on "Light Microscopy"

Academic Year 2020-21

Total Instructional Hours: 30

Syllabus

Sl.No	MODULE	Hours Allotted
1	MODULE 1: Introduction to Light Microscopy- Scientific contributions of Microscopy, Behaviour of Light, Interaction of light with matter	2
2	MODULE 2: Basic Principle of Light microscope and definitions	2
3	MODULE 3: Basic structure and Parts of a Compound and Dissection Microscope	4
4	MODULE 4: Objective and Eye Pieces, Resolution of Microscope	2
5	MODULE 5: Cleaning and Maintenance of compound or Lab Microscope	3
6	MODULE 6: Operating the Light Microscope	3
7	MODULE 7: Types of Light Microscopes-	4
8	MODULE 8: Types of Light Microscopes-	4
9	MODULE 9: Advantages and Limitations of Light Microscopy	2
10	MODULE 10: Demo and Hands on use of a compound or laboratory microscope	4


Dr Ch. Chaitanya

Course Coordinator



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



(Affiliated to Adikavi Nannaya University, Rajamahendravaram, A.P.)

Department of Botany

Certificate course on "Light Microscopy"

Academic Year: 2020-21

List of Students Enrolled

Sl.No.	Admn. No.	Class	Name of the Student	Signature of the Student
1	6643	III BSc (BZC)	YERRAMSETTI SIVA DURGA SAI PRASAD	Y.S.D.S Prasad
2/	6572	III BSc (BZC)	DAVILI DEEPIKA	D. Deepika
3	6589	III BSc (BZC)	BANDI SUMANTH	B. Sumanth
4	6630	III BSc (BZC)	CHINNAM DORKA	C. Dorka
5	6565	III BSc (BZC)	CHINTA RAMU	C. Ramu
6/	6550	III BSc (BZC)	DARLANKA ESTHER MANJUVANI	E. Manjvani
7	6594	III BSc (BZC)	MANE KRISHNA KALI PRIYA	M.K.K. Priya
8	6567	III BSc (BZC)	MADASU PEDDIRAJU	M. Peddiraju
9	6555	III BSc (BZC)	MATTA SINDHU	M. Sindhu
10	6543	III BSc (BZC)	MADDIRALA ROJA RAMANI	M. Roja Ramani
11	6614	III BSc (BZC)	NATHA ASHA	N. Asha
12	6552	III BSc (BZC)	NARUKULA PRAVALLIKA	N. Pravalika
13	6549	III BSc (BZC)	NIMMALA SRAVANI TULASI	N.S. Tulasi
14	6618	III BSc (BZC)	REVULAGADDA MOULI	R. Mouli
15	6539	III BSc (BZC)	RAMAYANAPU MOUNIKA	R. Mounika
16	6573	III BSc (BZC)	SANAPALA JANSI LAKSHMI	S. Jansi lakshmi
17	6597	III BSc (BZC)	SARIPALLI THERISSA	S. Therissa
18	6575	III BSc (BZC)	THOTA MAHANKALI	T. Mahankali
19	6561	III BSc (BZC)	THUMMURU PURNA GANGA TULASI	T.P.G. Tulasi
20	6538	III BSc (BZC)	YALLA SAI NAGA VIJAYA LAKSHMI	Y.S.N.V. lakshmi
21	6634	III BSc (BZC)	MANDALANKA ALEKHYA	M. Alekhya

PRINCIPAL
S.CH.V.P.M.R. Govt. Degree College
GANAPAVARAM-534198. (W.G. Dist)



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



Department of Botany

Certificate Course on "Light Microscopy"

Course Outline

Course Duration	30 to 40 days
Course Fee	Nil
Target Group	BSC BZC
Student intake	20 to 30 (First Come-First Serve)
Start Date	1.9.2021
No. of Modules	10
Formative Assessment	15 marks (objective type)
Summative Assessment	25 marks (objective type)
Qualifying Mark	15
Name of the Course Coordinator	Dr. Ch.Chaitanya

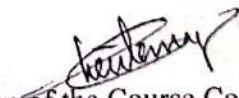
Student Registration Form

Date: 29-8-21

Name of the Student : D. Deepika
Admission Number : 6572
Batch : 2020 - 21
Year and Program studying : 3rd B.Sc. BZC
Semester : VI

D. Deepika
Signature of the Student

1


Signature of the Course Coordinator



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



Department of Botany

Certificate Course on "Light Microscopy"

Course Outline

Course Duration	30 to 40 days
Course Fee	Nil
Target Group	BSC BZC
Student intake	20 to 30 (First Come-First Serve)
Start Date	1.9.2021
No. of Modules	10
Formative Assessment	15 marks (objective type)
Summative Assessment	25 marks (objective type)
Qualifying Mark	15
Name of the Course Coordinator	Dr. Ch.Chaitanya

Student Registration Form

Date: 1-09-2021

Name of the Student : D. Esther Manjivani
Admission Number : 6550
Batch : 2020-21
Year and Program studying : 3rd BSC (BZC)
Semester : V

Emmani

Signature of the Student

Chaitanya

Signature of the Course Coordinator



Circular

Date: 20.09.2021

All the BSc BZC students who are enrolled for the certificate course on Light Microscopy are hereby informed that there will be a formative assessment on 21.09.2021.

Attendance is mandatory.

Syllabus for FA is:

- Scientific contributions of microscopy
- Behaviour of light
- Basic structure of light microscope
- Principle of light microscope
- Objective, eye piece & Resolution of Microscope.

~~Signature~~
Course Coordinator

BSc.  



DEPARTMENT OF BOTANY

Certificate Course in "LIGHT MICROSCOPY"

Formative Assessment

Max. Marks: 15

Name of the Student: D. Deepika

Group: 3rd B.S.C. B2.C

Admission No: 6572

Time: 30 minutes

Date: 21.09.2021

Answer all the following (15 X 1 = 15)

1. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?

- A) Eyepiece lens
- B) Objective lens
- C) Condenser lens
- D) Magnifying lens

2. What is the minimum distance for the eye to focus any object?

- A) 11 cm
- B) 25 cm
- C) 32 cm
- D) 42 cm

3. Resolving power of a microscope is a function of _____

- A) Wavelength of light used
- B) Numerical aperture of lens system
- C) Refractive index
- D) Wavelength of light used and numerical aperture of lens system

4. The greatest resolution in light microscopy can be obtained with _____

- A) Longest wavelength of visible light used
- B) An objective with minimum numerical aperture
- C) Shortest wavelength of visible light used
- D) Shortest wavelength of visible light used and

an objective with the maximum numerical aperture

5. Oil immersion objective lens has an NA value of _____

- A) 0.65
- B) 0.85
- C) 1.33
- D) 1.00

6. Total Magnification is obtained by _____

- A) Magnifying power of the objective lens
- B) Magnifying power of eyepiece
- C) Magnifying power of condenser lens
- D) Magnifying power of both the objective lens and eyepiece

7. In light microscopy, which of the following is used as fixatives prior to staining technique?

- A) Osmic acid
- B) Glutaraldehyde
- C) Heat
- D) Osmic acid, glutaraldehyde, heat

8. Which part of the light microscope controls the intensity of light entering the viewing area?

- A) Coarse adjustment screw
- B) Fine adjustment screw

- C) Diaphragm
- D) Condenser lens

9. The magnification power of a compound microscope does not depend upon

- A) The focal length and aperture of the eye lens
- B) The apertures of the objective lens
- C) Tube length of the microscope
- D) None of the above

10. is a measure of the clarity of an image; how clear the details are

- A) Magnification
- B) Resolution
- C) Total magnification
- D) Objectification

11. How many lenses are used in a compound microscope?

- A) 1-2
- B) 2-4
- C) More than 10
- D) More than 12

12. When the ocular lens power is 10 X and the objective lens power is 40 X, the magnification is

- A) 40 times
- B) 400 times
- C) 4 times
- D) 10 X

13. Light is best for obtaining the highest resolutions.

- A) Blue
- B) Orange
- C) Red
- D) Green

14. is used to clean the lenses of microscope.

- A) Alcohol
- B) Paraffin oil
- C) Wax
- D) Water

15. The main microscope lens that focuses the image is

- A) Ocular
- B) Base
- C) Objective
- D) Binocular

?



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



DEPARTMENT OF BOTANY

Certificate Course in "LIGHT MICROSCOPY"

Formative Assessment

Max. Marks: 15

Name of the Student: *D. Esther Manjuvani*

Group: *3rd BSC (BZC)*

Admission No: *6550*

Time: 30 minutes

Date: 21.09.2021

Answer all the following (15 X 1 = 15)

1. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?

- A) Eyepiece lens
- B) Objective lens
- C) Condenser lens
- D) Magnifying lens

2. What is the minimum distance for the eye to focus any object?

- A) 11 cm
- B) 25 cm
- C) 32 cm
- D) 42 cm

3. Resolving power of a microscope is a function of _____

- A) Wavelength of light used
- B) Numerical aperture of lens system
- C) Refractive index
- D) Wavelength of light used and numerical aperture of lens system

4. The greatest resolution in light microscopy can be obtained with _____

- A) Longest wavelength of visible light used
- B) An objective with minimum numerical aperture
- C) Shortest wavelength of visible light used
- D) Shortest wavelength of visible light used and

an objective with the maximum numerical aperture

5. Oil immersion objective lens has an NA value of _____

- A) 0.65
- B) 0.85
- C) 1.33
- D) 1.00

6. Total Magnification is obtained by

- A) Magnifying power of the objective lens
- B) Magnifying power of eyepiece
- C) Magnifying power of condenser lens
- D) Magnifying power of both the objective lens and eyepiece

7. In light microscopy, which of the following is used as fixatives prior to staining technique?

- A) Osmic acid
- B) Glutaraldehyde
- C) Heat
- D) Osmic acid, glutaraldehyde, heat

8. Which part of the light microscope controls the intensity of light entering the viewing area?

- A) Coarse adjustment screw
- B) Fine adjustment screw

- C) Diaphragm
- D) Condenser lens

9. The magnification power of a compound microscope does not depend upon

- A) The focal length and aperture of the eye lens
- B) The apertures of the objective lens
- C) Tube length of the microscope
- D) None of the above

10. is a measure of the clarity of an image; how clear the details are

- A) Magnification
- B) Resolution
- C) Total magnification
- D) Objectification

11. How many lenses are used in a compound microscope?

- A) 1-2
- B) 2-4
- C) More than 10
- D) More than 12

12. When the ocular lens power is 10 X and the objective lens power is 40 X, the magnification is

- A) 40 times
- B) 400 times
- C) 4 times
- D) 10 X

13. Light is best for obtaining the highest resolutions.

- A) Blue
- B) Orange
- C) Red
- D) Green

14. is used to clean the lenses of microscope.

- A) Alcohol
- B) Paraffin oil
- C) Wax
- D) Water

15. The main microscope lens that focuses the image is

- A) Ocular
- B) Base
- C) Objective
- D) Binocular

CIRCULAR.

08.10.2021.

All the BSc. BZC students who are enrolled for the certificate course - 'Light Microscopy' are hereby informed that there will be a summative assessment on 20.10.2021, very soon after reopening of college after the short vacation (9-10-21 to 17-10-21).

Attendance is Mandatory.

Please note that:

- The qualifying mark is 15 out of 25 for course completion.
- Students with less than 75% of attendance are not eligible to give the test.


Course- Co-ordinator.

BSc BZC.

పేరు _____
వెంకటేశ్వరము _____

Pupils Attendance Register

1	2	3	4	5													
				1	2	3	4	5	6	7	8	9	10	11	12	13	
6643	1	Yerrametti Siva Durga Prasad		a	a	a	a	a	a	a	a	a	a	a	a	a	a
6672	2	Davili Deepika		P	P	P	P	P	P	P	P	a	P	P	P	P	
6589	3	Bandi Sumanth		p	p	p	p	p	a	p	p	p	p	p	p	p	
6630	4	Chinmam Dorika		P	P	P	a	P	P	P	P	P	a	P	P	P	
6565	5	Chinta Ramu		P	P	P	P	P	P	a	P	P	P	P	P	P	
6550	6	Daslanka Eelam Manjuna		P	P	P	P	P	P	P	P	P	P	P	P	P	
6594	7	Mame Krishna Kali Baiya		P	P	P	P	P	P	P	P	P	P	P	P	P	
6567	8	Madasa Peddiraju		P	P	P	P	P	P	P	P	P	a	P	P	P	
6555	9	Matta Sindhu		P	P	a	P	P	P	P	P	a	P	P	P	P	
6543	10	Maddirala Raja Rammi		P	P	P	a	P	P	P	P	P	P	a	P	P	
6614	11	Natha Asha		a	a	a	a	a	a	a	a	a	a	a	a	a	
6552	12	Naru-kula Pravallika		P	a	P	a	P	P	P	a	P	P	P	a	P	
6549	13	Nimmala Sravmi Tulasi		P	P	P	P	P	P	P	P	P	P	P	P	P	
6618	14	Revulagadda Mauli		P	P	P	P	P	P	P	a	P	P	P	P	P	
6539	15	Rama Janapa Mamika		P	P	a	P	P	P	P	P	a	P	P	P	P	
6573	16	Sanapala Jani Lakshmi		P	P	P	P	P	P	P	P	P	P	P	P	P	
6597	17	Saripalli Therissa		P	a	P	P	P	P	a	P	P	P	P	P	P	
6575	18	Thota Mahankali		P	P	a	P	P	P	a	P	P	P	P	P	P	
6561	19	Thimmusa Puera Ganga Tulasi		P	a	P	P	a	P	a	P	P	P	P	P	P	
6538	20	Yalla Sai Naga Vijaya Lakshmi		P	P	a	P	P	P	P	P	P	a	P	P	P	
6634	21	Mandalanka Alekhya		P	P	P	a	P	P	P	P	P	P	P	P	P	

ఇందుకు పేరు _____ లాగేటు _____
 తప్పిపోయిన పేరు _____
 తియ్యకు పేరు _____ లాగేటు _____
 తప్పిపోయిన పేరు _____

పిల్లల హాజరుపట్టి

రోజుల సంఖ్య _____
 పిల్లల సంఖ్య _____
 తేదీ _____
 పేరు _____

5													6	7	8	9				
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	పాఠశాల పేరు	హాజరు శాతం	పేరు
a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	31	0	0%	y.s.d.s Prasad
P	P	P	P	P	P	P	a	P	P	P	P	P	a	P	P	P	31	28	90%	D. Deepika
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	31	30	96%	B. Sumanth
P	a	P	P	P	a	P	P	P	P	a	P	P	P	P	P	a	31	25	80%	C. Dorika
a	P	P	P	P	P	P	a	P	P	P	P	a	P	P	P	P	31	27	87%	C. Ramu
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	31	31	100%	Emucani
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	31	31	100%	M.K.K. Prayo
P	P	P	P	P	a	P	a	P	P	P	P	P	P	P	P	P	31	28	90%	M. Patti Raju
P	P	P	a	P	P	P	P	P	a	P	P	P	P	P	P	P	31	27	87%	M. Sindhu
a	P	P	P	P	a	P	P	P	P	P	a	P	P	a	P	a	31	25	80%	M. Raja Ramani
a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	31	0	0%	
P	P	P	a	P	P	a	P	P	P	a	P	P	P	a	P	P	31	23	74%	N. Ravallika
P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	31	30	96%	N. S. Tulasi
P	P	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	31	29	93%	R. Mauli
P	P	a	P	P	P	P	P	P	a	P	P	P	P	P	P	P	31	27	87%	R. Ravallika
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	31	30	96%	S. Jani Lakshmi
a	P	P	P	P	P	a	P	P	P	P	P	a	P	P	P	P	31	26	83%	S. Therissa
P	P	a	P	P	P	P	a	P	P	P	P	a	P	P	P	P	31	26	83%	T. Mahankali
P	P	P	a	P	P	a	P	P	a	P	P	P	a	P	a	P	31	24	77%	T. P. Gitalas
P	P	P	P	P	P	P	a	P	P	P	P	P	P	P	P	P	31	28	90%	Y.S.N.V. Lakshmi
a	P	P	P	P	P	P	a	P	P	P	P	P	a	P	P	P	31	28	90%	M. Alekhya

Signature
 Gause co. Srinivas

Signature
 PRINCIPAL (F.A.C)
 S.Ch.V.P.M.E. Govt. Degree College
 Accredited "B" by NAAC
 GANAPAVARAM (W.G.D.)

సంఖ్య _____
 తేదీ _____



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM - 534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



DEPARTMENT OF BOTANY

Certificate Course in "LIGHT MICROSCOPY"

Summative Assessment

Max. Marks: 25

Name of the Student: D. Deepika

Group: 3rd B.Sc. B.Z.C

Admission No: 6572

Time: 50 minutes

Date: 20.10.2021

Answer all the following (25 X 1 = 25)

1. In Phase contrast microscopy, the rate at which light enters through objects is

- A) Constant
- B) inversely proportional to their refractive indices ~~X~~
- C) Directly proportional to their refractive indices
- D) exponentially related to their refractive indices

2. In fluorescence microscopy, which of the following performs the function of removing all light except the blue light?

- A) Exciter filter ~~X~~
- B) Barrier filter
- C) Dichroic mirror
- D) Mercury arc lamp

3. _____ Microscopy is responsible for detailed imaging of subcellular organelles like nucleus and chromosome.

- A) Optical microscopy
- B) X-ray microscopy ~~X~~
- C) Electron microscopy
- D) Compound microscopy

4. Microscope that uses light rays to produce a dark image against a bright background is known as a

- A) Darkfield microscope
- B) Brightfield microscope ~~X~~
- C) Phase contrast microscope
- D) Electron microscope

5. Stereoscopic microscopes are also known as

- A) Dissecting microscope ~~X~~
- B) Darkfield microscope
- C) Brightfield microscope
- D) Compound microscope

6. Dissecting microscope was first designed by

- A) John Leornld Riddell
- B) Horatio S. Greenough
- C) Cherudin d'Orléans ~~X~~
- D) Charles wheatstone

7. TEM uses to focus on the specimen to produce an image.

- A.) Beam of protons
- B.) Light rays
- C.) Beam of electrons
- D.) Beam of neutrons

8. TEM has..... times better resolution than that of light microscope.

- A) 10 times
- B) 100 times
- C) 1000 times
- ~~D) 10000 times~~

9. Which of the given is not the part of TEM?

- A) Intermediate lenses
- B) Fluorescent screen
- C) Condenser aperture
- ~~D) None of the above~~

10. Microscope uses a single lens for magnification.

- A) Compound microscope
- B) Simple microscope
- C) Phase contrast microscope
- ~~D) Light microscope~~

11. microscope provide detailed 3D image.

- A) Simple microscope
- B) Compound microscope
- C) Light microscope
- ~~D) Scanning electron microscope~~

12. The metal used in an electron microscope is

- ~~A) Tungsten~~
- B) Platinum
- C) Gold
- D) Silver

13..... described "cell" in a dead cork tissue.

- A) Antonie van Leeuwenhoek
- ~~B) Robert Hooke~~
- C.) Hans Janssen
- D.) Louis Pasteur

14..... image formed by an objective of a compound microscope is

- ~~A) Real and enlarged~~
- B) Real and small
- C) Real and diminished
- D) Virtual and Diminished

15. Light Interacts with matter as

- A) Particle
- B) Wave
- C) Rays
- ~~D) both A and B~~

16. ——— is the study of devices that are used to view objects or certain areas that cannot be seen with a naked eye.

- ~~A) Nanotechnology~~
- B) Macroscopy
- C) Microscopy
- D) Microbiology

17. ——— Microscopy is responsible for detailed imaging of subcellular organelles like nucleus and chromosome.

- A) Optical microscopy
- ~~B) X-ray microscopy~~
- C) Electron microscopy
- D) Compound microscopy

18. in simple microscope used to control the amount of light passing through the stage

- ~~A) Diaphragm~~
- B) Stage
- C) Condenser
- D) Base

19. Which type of microscope is used for observing a sample that has been stained or labeled with fluorescent dyes?

- A). Light Microscope
- B). Electron Microscope
- ~~C). Fluorescence Microscope~~
- D). Transmission electron Microscope

20. What type of microscope can be used to observe the internal structure of samples in 3D?

- A). Light Microscope
- B) Electron Microscope
- C) Confocal Microscope
- ~~D) Transmission electron Microscope~~

21. What type of microscope is used for observing samples that are transparent?

- ~~A) Light Microscope~~
- B) Electron Microscope
- C) Fluorescence Microscope
- D) Transmission electron Microscope

22. What type of microscope is used for observing samples in a liquid environment?

- A) Light Microscope
- ~~B) Electron Microscope~~
- C) Confocal Microscope

D) Transmission electron Microscope

23. What type of microscope is used for observing the surface of a sample?

- A) Light Microscope
- B) Electron Microscope
- C) Scanning electron Microscope
- D) Transmission electron Microscope

24. In fluorescence microscopy, which of the following controls the removal of all light except blue light?

- A) Filter for excitors
- B) Filtering barrier
- C) Mirror made of dichroic glass
- D) Arc light made of mercury

25. All of the following are components of compound microscope except

- A) Stage clips
- B) Fine adjustment
- C) Electron gun
- D) Binocular eye piece



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198



ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'

DEPARTMENT OF BOTANY

Certificate Course in "LIGHT MICROSCOPY"

Summative Assessment

Max. Marks: 25

Name of the Student: D. Esther Manjivani

Group: 3rd BSC (B7C)

Admission No: 6550

Time: 50 minutes

Date: 20.10.2021

Answer all the following (25 X 1 = 25)

1. In Phase contrast microscopy, the rate at which light enters through objects is

- A) Constant
- B) inversely proportional to their refractive indices
- C) Directly proportional to their refractive indices
- D) exponentially related to their refractive indices

2. In fluorescence microscopy, which of the following performs the function of removing all light except the blue light?

- A) Exciter filter
- B) Barrier filter
- C) Dichroic mirror
- D) Mercury arc lamp

3. ——— Microscopy is responsible for detailed imaging of subcellular organelles like nucleus and chromosome.

- A) Optical microscopy
- B) X-ray microscopy
- C) Electron microscopy
- D) Compound microscopy

4. Microscope that uses light rays to produce a dark image against a bright background is known as a

- A) Darkfield microscope
- B) Brightfield microscope
- C) Phase contrast microscope
- D) Electron microscope

5. Stereoscopic microscopes are also known as

- A) Dissecting microscope
- B) Darkfield microscope
- C) Brightfield microscope
- D) Compound microscope

6. Dissecting microscope was first designed by

- A) John Leornld Riddell
- B) Horatio S. Greenough
- C) Cherudin d'Orléans
- D) Charles wheatstone

7. TEM uses to focus on the specimen to produce an image.

- A.) Beam of protons
- B.) Light rays
- C.) Beam of electrons
- D.) Beam of neutrons

8. TEM has..... times better resolution than that of light microscope.

- A) 10 times
- B) 100 times
- C) 1000 times
- D) 10000 times

9. Which of the given is not the part of TEM?

- A) Intermediate lenses
- B) Fluorescent screen
- C) Condenser aperture
- D) None of the above

10. Microscope uses a single lens for magnification.

- A) Compound microscope
- B) Simple microscope
- C) Phase contrast microscope
- D) Light microscope

11. microscope provide detailed 3D image.

- A) Simple microscope
- B) Compound microscope
- C) Light microscope
- D) Scanning electron microscope

12. The metal used in an electron microscope is

- A) Tungsten
- B) Platinum
- C) Gold
- D) Silver

13..... described "cell" in a dead cork tissue.

- A) Antonie van Leeuwenhoek
- B) Robert Hooke
- C) Hans Janssen
- D) Louis Pasteur

14..... image formed by an objective of a compound microscope is

- A) Real and enlarged
- B) Real and small
- C) Real and diminished
- D) Virtual and Diminished

15. Light Interacts with matter as

- A) Particle
- B) Wave
- C) Rays
- D) both A and B

16. ——— is the study of devices that are used to view objects or certain areas that cannot be seen with a naked eye.

- A) Nanotechnology
- B) Macroscopy
- C) Microscopy
- D) Microbiology

17. ——— Microscopy is responsible for detailed imaging of subcellular organelles like nucleus and chromosome.

- A) Optical microscopy
- B) X-ray microscopy
- C) Electron microscopy
- D) Compound microscopy

18. in simple microscope used to control the amount of light passing through the stage

- A) Diaphragm
- B) Stage
- C) Condenser
- D) Base

19. Which type of microscope is used for observing a sample that has been stained or labeled with fluorescent dyes?

- A). Light Microscope
- B). Electron Microscope
- C). Fluorescence Microscope
- D). Transmission electron Microscope

20. What type of microscope can be used to observe the internal structure of samples in 3D?

- A). Light Microscope
- B) Electron Microscope
- C) Confocal Microscope
- D) Transmission electron Microscope

21. What type of microscope is used for observing samples that are transparent?

- A) Light Microscope
- B) Electron Microscope
- C) Fluorescence Microscope
- D) Transmission electron Microscope

22. What type of microscope is used for observing samples in a liquid environment?

- A) Light Microscope
- B) Electron Microscope
- C) Confocal Microscope

D) Transmission electron Microscope

23. What type of microscope is used for observing the surface of a sample?

- A) Light Microscope
- B) Electron Microscope
- C) Scanning electron Microscope
- D) Transmission electron Microscope

24. In fluorescence microscopy, which of the following controls the removal of all light except blue light?

- A) Filter for excitors
- B) Filtering barrier
- C) Mirror made of dichroic glass
- D) Arc light made of mercury

25. All of the following are components of compound microscope except

- A) Stage clips
- B) Fine adjustment
- C) Electron gun
- D) Binocular eye piece



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198



ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'

(Affiliated to Adikavi Nannaya University, Rajamahendravaram, A.P.)

Department of Botany
Certificate course on "Light Microscopy"
Academic Year: 2020-21

RESULT SHEET

SLNo.	Admn. No.	Class	Name of the Student	FA Marks (15)	SA Marks (25)	Total (40)	Grade	Signature of the Student
1	6643	III BSc (BZC)	YERRAMSETTI SIVA DURGA SAI PRASAD	ABSENT				v
2	6572	III BSc (BZC)	DAVILI DEEPIKA	6	19	25	C	D. Deepika
3	6589	III BSc (BZC)	BANDI SUMANTH	4	16	20	D	B. Sumanth
4	6630	III BSc (BZC)	CHINNAM DORKA	5	5	20	C	C. Dorka
5	6565	III BSc (BZC)	CHINTA RAMU	5	15	20	C	C. Ramu
6	6550	III BSc (BZC)	DARLANKA ESTHER MANJUVANI	14	21	35	A	Esther
7	6594	III BSc (BZC)	MANE KRISHNA KALI PRIYA	13	20	33	A	M. K. Priya
8	6567	III BSc (BZC)	MADASU PEDDIRAJU	8	15	23	C	M. Peddi Raju
9	6555	III BSc (BZC)	MATTA SINDHU	12	21	33	A	M. Sindhu
10	6543	III BSc (BZC)	MADDIRALA ROJA RAMANI	13	20	33	A	M. Raja Ramani
11	6614	III BSc (BZC)	NATHA ASHA	ABSENT				
12	6552	III BSc (BZC)	NARUKULA PRAVALLIKA	8	15	23	C	N. Pravalika
13	6549	III BSc (BZC)	NIMMALA SRAVANI TULASI	14	21	35	A	N. S. Tulasi
14	6618	III BSc (BZC)	REVULAGADDA MOULI	8	20	28	B	R. Mouli
15	6539	III BSc (BZC)	RAMAYANAPU MOUNIKA	12	21	33	A	R. Mounika
16	6573	III BSc (BZC)	SANAPALA JANSI LAKSHMI	13	22	35	A	S. Jansi Lakshmi
17	6597	III BSc (BZC)	SARIPALLI THERISSA	10	15	25	C	S. Therissa
18	6575	III BSc (BZC)	THOTA MAHANKALI	8	20	28	B	T. Maha Kali
19	6561	III BSc (BZC)	THUMMURU PURNA GANGA TULASI	11	23	34	A	T. P. Tulasi
20	6538	III BSc (BZC)	YALLA SAI NAGA VIJAYA LAKSHMI	10	20	30	B	
21	6634	III BSc (BZC)	MANDALANKA ALEKHYA	10	15	25	C	M. Alekhya

Grade: > 30 - A, 26 to 30 - B, 21 to 25 - C, 15 to 20 - D, < 15 Fail

PRINCIPAL
S. CH. V. P. M. R. Govt. Degree College
GANAPAVARAM-534198. (W.G. Dist)



**S Ch V P M R GOVERNMENT DEGREE
COLLEGE. GANAPAVARAM**



DEPARTMENT OF BOTANY

Certificate Course on “Light Microscopy”

Academic Year 2020-21

Report

Certificate Course on Light Microscopy started on 1st September 2021 with a target to provide basic knowledge to Biology students. Twenty-one students from III BZC were enrolled but only nineteen students completed the course successfully. The course included basics of Light microscopy, structure and parts of a compound or laboratory microscope, operation and maintenance of microscopes. To extend the knowledge of students, different types of Light microscopes and their working principles were also included. A demo and hands on use of a compound or laboratory microscope enabled the students to learn the right way of observing samples under the compound microscope in the laboratory. The students were confident to operate the laboratory microscopes on their own and also learned the common mistakes that would hamper the functioning of a microscope.

Learning Outcomes

- ❖ Gain Knowledge of fundamentals of light microscopy
- ❖ Operate a compound microscope.
- ❖ Develop competence to apply them while doing Practicals.


Dr.Ch.Chaitanya

Course Coordinator


PRINCIPAL

S.CH.V.P.M.R.Govt.Degree College
GANAPAVARAM-534198. (W.G.Dist)



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



CERTIFICATE

This is to certify that


DAVILI DEEPIKA, III BZC (Admission No. 6572)

of

SCHVPMR GOVERNMENT DEGREE COLLEGE, WEST GODAVARI, ANDHRA PRADESH has successfully completed the certificate course in “**LIGHT MICROSCOPY**” conducted from 01 September to 12 October, 2021 offered by the Department of Botany with grade “**C**”.


Dr Ch. Chaitanya

Course Coordinator


Dr M. Syambab

Principal



SRI CHINTALAPATI VARA PRASADA MURTHY RAJU
GOVERNMENT DEGREE COLLEGE

GANAPAVARAM-534 198

ESTD. 1972 • AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY • ACCREDITED NAAC 'B'



CERTIFICATE


This is to certify that

DARLANKA ESTHER MANJUVANI, III BZC (Admission No. 6550)

of

SCHVPMR GOVERNMENT DEGREE COLLEGE, WEST GODAVARI, ANDHRA PRADESH has successfully completed the certificate course in “**LIGHT MICROSCOPY**” held from 01 September to 12 October, 2021 offered by the Department of Botany with grade “**A**”.


Dr Ch. Chaitanya
Course Coordinator


Dr M. Syambab
Principal