



Rayat Shikshan Sanstha's
D. P. Bhosale College, Koregaon

Department of Zoology

INDEX

Skill based Certificate Course on Clinical Haematology

Year 2021-22

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Rayat Shikshan Sanstha's

D.P. Bhosale College, Koregaon

Department of Zoology

NOTICE

2021-22

Date:- 27/12/2021

All the students of B. Sc. II & III are here by informed that Department has organized **“Skill based Course on Clinical Hematology”** from Monday 1st January 2022. All students are informed that they should remain present for course on time. It may clearly noted that fine will be collected from absent students.


Incharge


Head,

Department of Zoology

Skill based Certificate Course

On

Clinical Hematology





Rayat Shikshan Sanstha's

D.P. Bhosale College, Koregaon

Skill based Certificate Course

on

Clinical Hematology

Organized by

Department of Zoology

Course Incharge

Mr. Jawale C. B.

Course Duration: 01 Jan 2022 – 05 Feb 2022

Rayat Shikshan Sanstha's
D.P. Bhosale College, Koregaon
Syllabus

Title --	Skill based Certificate Course on Clinical Hematology	Total	Hrs- 30
	B. Sc. II & III (Zoology)		

Theory

UNIT – I

1. The components of blood

- Plasma
- Red blood cells
- White blood cells
- Platelets

2. Collection of Blood

- Criteria for sample collection
- Collection of capillary blood (Peripheral Blood) blood by skin punctures
- Collection of venous blood by Venipuncture,
- Collection of arterial blood

UNIT – II

1. Hemoglobin

- Structure and function of Hemoglobin
- Anemia Causes, Effect and Control
- Types of anemia
- Causes and Symptoms of anemia
- Control measure of anemia
- Diagnosis of anemia

UNIT – III.

- Hemopoiesis, erythropoiesis and leucopoiesis

UNIT – IV

- Blood Clotting,
- Mechanism of Clotting
- Extrinsic and Intrinsic Mechanism

Practicals

- Clotting and bleeding time of blood.
- RBC Counting
- WBC Counting
- Differential Count of WBCs
- Platelet count and Haematocrit
- Estimation of Haemoglobin
- Study of Blood Smear for differential WBC Count - Preparation and Staining of smears
- Collection Blood by Skin puncture and Venipuncture,
- Separation of Blood components Plasma, Serum and Corpuscles

REFERENCE BOOKS:

1. Medical Laboratory Technology - Ramnik Sood
2. Medical Lab Technology Vol. I, II & III – Kanai Mukherjee
3. Hand Book of Medical Technology - Mrs. Chitra
4. Medical Laboratory Technology – A. Ananthanarayan
5. Manual for Laboratory Technician of Primary Health by Minister of Health
6. Human Physiology Vol. I & II – C. C. Chatterjee


Head
Department of Zoology
D. P. Bhosale College Koregaon



Rayat Shikshan Sanstha's

D.P. Bhosale College, Koregaon

Department of Zoology

Year : 2021 - 22

Skill based Certificate Course

on

Clinical Hematology

Objectives

- To understand Perform staining and counting technique for identification of different type of blood cells.
- To understand collection methods of blood sample.
- To understand separation techniques of blood sample components.
- To understand diagnosis of different blood related diseases.

Learning Outcomes

- After completion of this course students should be able to:
- Perform staining and counting technique for identification of different type of blood cells.
- Collect blood sample by different methods.
- Separate different components of blood
- Estimation of Hb from blood samples
- Diagnosis of various blood diseases like anemia


In charge

Certificate Course


Head,

Department of Zoology



Rayat Shikshan Sanstha's

D.P. Bhosale College, Koregaon

Department of Zoology

Skill based Certificate Course on Clinical Hematology

Time Table - 2021-22

Theory & Practical

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.15-11.15 Theory	CBJ	SPN	KJK	NAS	CBJ	NAS
08.30-10.30 Practical	CBJ	SPN	KJK	NAS	CBJ	NAS

CBJ – Mr. C. B. Jawale

SPN – Dr. S. P. Nalawade

KJK – Dr. K. J. Kamble

NAS – Ms. N. A. Shaikh

Jawale
Nalawade
Kamble
Shaikh

Jawale
Head
Department of Zoology
D. P. Bhosale College Koregaon



Rayat Shikshan Sanstha's
D.P. Bhosale College, Koregaon

Department of Zoology

Skill based Certificate Course on Clinical Hematology

Time Table- 2021-22

Theory & Practical

Date	Time	Theory / Practical	Name of the teacher
01/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
03/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
04/01/2022	10-15-11.15	Theory	Dr. S. P. Nalawade
05/01/2022	10.15-11.15	Theory	Dr. K. J. Kamble
06/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
07/01/2022	08.30-10.30	Practical	Mr. C. B. Jawale
08/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
10/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
11/01/2022	08.30-10.30	Practical	Dr. S. P. Nalawade
12/01/2022	10.15-11.15	Theory	Dr. K. J. Kamble
13/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
14/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
15/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
17/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
18/01/2022	10.15-11.15	Theory	Dr. S. P. Nalawade
19/01/2022	10.15-11.15	Theory	Dr. K. J. Kamble
20/01/2022	08.30-10.30	Practical	Ms. N. A. Shaikh
21/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
22/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
24/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
25/01/2022	08.30-10.30	Practical	Dr. S. P. Nalawade
27/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
28/01/2022	10.15-11.15	Theory	Mr. C. B. Jawale
29/01/2022	10.15-11.15	Theory	Ms. N. A. Shaikh
31/01/2022	08.30-10.30	Practical	Mr. C. B. Jawale

01/02/2022	08.30-10.30	Practical	Dr. S. P. Nalawade
02/02/2022	08.30-10.30	Practical	Dr. K. J. Kamble
03/02/2022	08.30-10.30	Practical	Ms. N. A. Shaikh
04/02/2022	08.30-10.30	Practical	Mr. C. B. Jawale
05/02/2022	8.30-10.30	Practical	Ms. N. A. Shaikh

Jawale
Head

Department of Zoology
D. P. Bhosale College Koregaon



Rayat Shikshan Sanstha's
D.P. Bhosale College, Koregaon
Student list 2021-22

Skill based Certificate Course on Clinical Hematology

Sr. No.	Roll No	Name of the Students
1	22653	Anbhule Bhakti Jagannath
2	22654	Barge Rutuja Vinod
3	22655	Barge Uddesh Pandurang
4	22656	Bhosale Akash Hanmant
5	22657	Bhosale Divya Datta
6	22658	Gade Divya Ramdas
7	22659	Ghadge Abhishek Himmat
8	22660	Kamble Kunal Navnath
9	22661	Londhe Nilam Subhash
10	22662	Oswal Neelkumar Rakesh
11	22512	Bali Shekhar Sanjay
12	22513	Bhosale Divya Baburao
13	22514	Gaikwad Shveta Chandrakant
14	22515	Ghadge Abhishek Suresh
15	22516	Ghadge Sanika Sanjay
16	22517	Ghadge Vaishnavi Bharat
17	22518	Ghorpade Riteek Krishnadev
18	22519	Ghorpade Vaishnavi Arjun
19	22520	Jadhav Vaishnavi Sunil
20	22521	Kadam Akanksha Mahesh
21	22522	Kondawale Dipali Shivaji
22	22523	Mahamuni Prabhanjay Nandkumar
23	22524	Nikam Ankita Ramesh
24	22525	Shedge Aruna Narayan
25	22526	Waghmare Sakshata Krishnat
26	22527	Yadav Mayavati Dattatray


Head

Department of Zoology
D. P. Bhosale College, Koregaon

Roll No.	Name of the Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
22653	Anbhule B.J.	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	BA	A	BA	BA	BA	BA	BA	BA	BA	BA	
22654	Barge R. V.	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	RVB	
22655	Barge U. P.	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	UB	A	UB	UB	UB	UB	UB	UB	UB	UB	
22656	Bhosale A. H.	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	
22657	Bhosale D. D.	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D		
22658	Gade D. R.	A	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG	DRG		
22659	Ghadge A. H.	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	GAM	
22660	Kamble K. N.	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	KKN	
22661	Londhe N. S.	A	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS	LNS		
22662	Oswal N. R.	A	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW	OSW		
22512	Bali S. S.	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	
22513	Bhosale D. B.	A	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	DB	
22514	Gaikwad S. C.	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	
22515	Ghadge A. S.	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	ASG	
22516	Ghadge S. S.	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	GSS	
22517	Ghadge V. B.	A	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	GVB	
22518	Ghorpade R. K.	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
22519	Ghorpade V. A.	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	
22520	Jadhav V. S.	A	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	JVS	
22521	Kadam A. M.	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	ADM	
22522	Kondawale D. S.	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	DS	
22523	Mahamuni P. N.	A	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	PNM	
22524	Nikam A. R.	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN	ARN
22525	Shedge A. N.	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN
22526	Waghmare S. K.	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	SKW	
22527	Yadav M. D.	A	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	YMD	


Head
 Department of Zoology
 D. P. Bhosale College Koregaon

Roll No.	Name of the Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
22653	Anbhule B.J.	BA	A	BA	BA	BA																											
22654	Barge R. V.	A	RB	RB	RB	RB																											
22655	Barge U. P.	u.Barge	u.Barge	u.Barge	u.Barge	u.Barge																											
22656	Bhosale A. H.	AMB	AMB	AMB	AMB	AMB																											
22657	Bhosale D. D.	B.D.D	B.D.D	B.D.D	B.D.D	B.D.D																											
22658	Gade D. R.	DRG	DRG	DRG	DRG	DRG																											
22659	Ghadge A. H.	A	AG	AG	AG	AG																											
22660	Kamble K. N.	KKN	KKN	KKN	KKN	KKN																											
22661	Londhe N. S.	INS	INS	INS	A	INS																											
22662	Oswal N. R.	OR	OR	OR	OR	OR																											
22512	Bali S. S.	BS	BS	BS	BS	BS																											
22513	Bhosale D. B.	A	DB	DB	DB	A																											
22514	Gaikwad S. C.	SG	SG	SG	SG	SG																											
22515	Ghadge A. S.	AS	AS	A	AS	AS																											
22516	Ghadge S. S.	A	GS	GS	GS	A																											
22517	Ghadge V. B.	GV	GV	GV	GV	GV																											
22518	Gharpade R. K.	R	R	R	R	R																											
22519	Gharpade V. A.	VA	VA	VA	VA	VA																											
22520	Jadhav V. S.	A	VS	A	VS	VS																											
22521	Kadam A. M.	AM	AM	AM	AM	AM																											
22522	Kondawale D. S.	DS	DS	DS	DS	DS																											
22523	Mahamuni P. N.	P.N	P.N	P.N	P.N	P.N																											
22524	Nikam A. R.	AR	A	AR	AR	AR																											
22525	Shedge A. N.	AN	AN	AN	AN	A																											
22526	Waghmare S. K.	SK	SK	A	SK	SK																											
22527	Yadav M. D.	A	YD	YD	YD	A																											

Bhosale
Head

Department of Zoology
D. P. Bhosale College Koregaon

Rayat Shikshan Sanstha's

D. P. Bhosale College, Koregaon

Department of Zoology

Question Paper

Skill based Certificate Course on Clinical Hematology

Marks : 30

Instructions

1. All the questions are compulsory
 2. Questions to the right Indicate full Marks
 3. Draw neat and Labelled diagrams wherever necessary
-

Que. 1: Long questions (Any 2)

20

- a. What is erythropoiesis? Describe in details process of erythropoiesis.
- b. Explain in brief mechanism of blood clotting.
- c. What is anemia? Causes, symptoms and Control of anemia

Que. 2: Write short notes on following (Any 2)

10

- a. Plasma
- b. Leucopoiesis
- c. Vein puncture method



Rayat Shikshan Sanstha's
D.P. Bhosale College, Koregaon
Student list 2021-22

Skill based Certificate Course on Clinical Hematology

Marklist

Sr. No.	Roll No	Name of the Students	Que. 1 20	Que. 2 10	Total 30
1	22653	Anbhule Bhakti Jagannath	19	07	26
2	22654	Barge Rutuja Vinod	17	09	26
3	22655	Barge Uddesh Pandurang	18	09	27
4	22656	Bhosale Akash Hanmant	17	08	25
5	22657	Bhosale Divya Datta	13	09	22
6	22658	Gade Divya Ramdas	14	09	23
7	22659	Ghadge Abhishek Himmat	15	08	23
8	22660	Kamble Kunal Navnath	16	07	23
9	22661	Londhe Nilam Subhash	18	09	27
10	22662	Oswal Neelkumar Rakesh	17	09	26
11	22512	Bali Shekhar Sanjay	15	08	23
12	22513	Bhosale Divya Baburao	16	09	25
13	22514	Gaikwad Shveta Chandrakant	19	08	27
14	22515	Ghadge Abhishek Suresh	19	09	28
15	22516	Ghadge Sanika Sanjay	18	09	27
16	22517	Ghadge Vaishnavi Bharat	15	08	23
17	22518	Ghorpade Riteek Krishnadev	19	09	28
18	22519	Ghorpade Vaishnavi Arjun	18	07	25
19	22520	Jadhav Vaishnavi Sunil	18	09	27
20	22521	Kadam Akanksha Mahesh	19	08	27
21	22522	Kondawale Dipali Shivaji	17	07	24
22	22523	Mahamuni Prabhanjay Nandkumar	15	09	24
23	22524	Nikam Ankita Ramesh	17	08	25
24	22525	Shedge Aruna Narayan	19	08	27
25	22526	Waghmare Sakshata Krishnat	16	08	24


Head

Department of Zoology
D. P. Bhosale College Koregaon



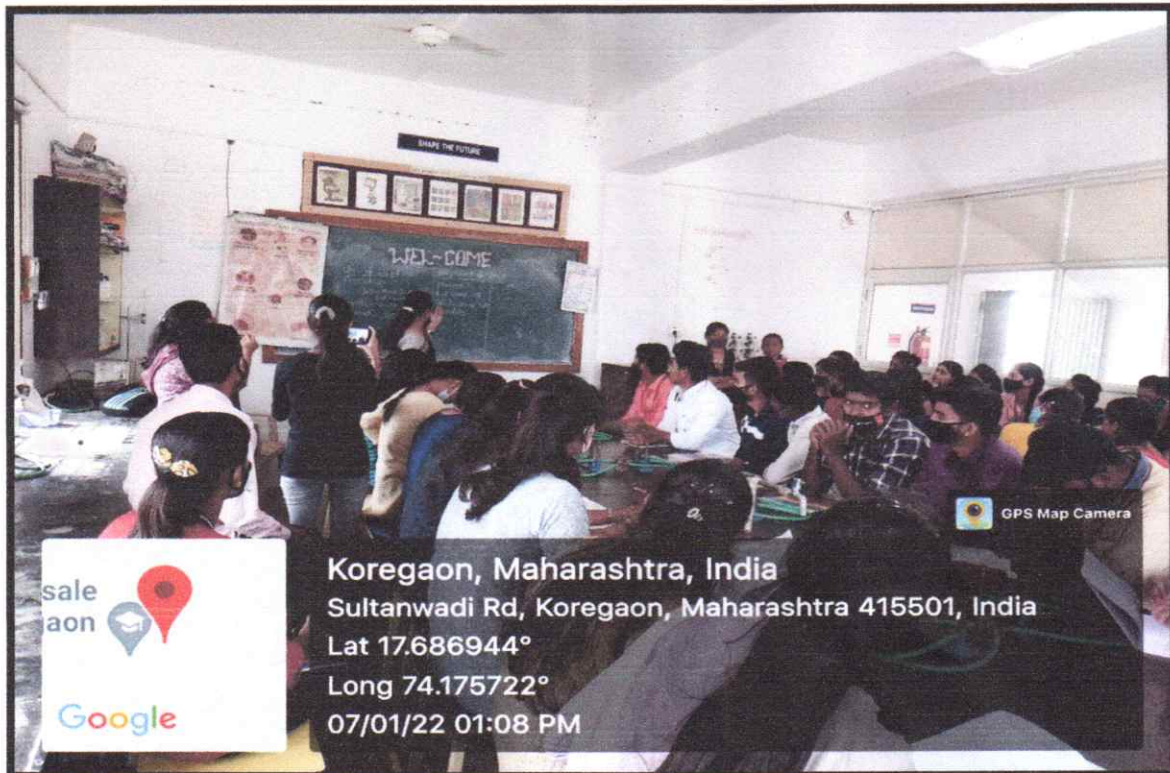
**Rayat Shikshan Sanstha's
D. P. Bhosale College, Koregaon**

Department of Zoology

Report

Skill based Certificate Course on Clinical Haematology

Haematology involves the study of the blood, and in depth analyses of how blood can affect overall health of a person or disease. Haematology as a stream offers the knowledge of the tests that are related to blood, blood proteins and blood producing organs. It covers the diagnosis of blood cell diseases, analyses of blood cell abnormalities, the anatomy and physiology of blood cellular components and the management of related disorders.



Smt. Ubale delivered Guest Lecture

The curriculum of skill based course on Clinical Haematology is designed to make you knowledgeable and trained enough in all sectors of blood-related

diseases and disorders. This curriculum includes all the essential information related to blood treatment and make you a professional in this field of work. The curriculum for Haematology is bound to change for different institutes, but the end goal is to make you knowledgeable enough by giving you the proper theoretical information and practical skills.

Department of Zoology has offered this course for B.Sc. II and B.Sc. III students. This course was conducted during the 1st January 2022 to 05th February 2022. For this course 26 candidates have been enrolled. During this period the lectures and practicals were conducted by resource faculties. In this period department has organised guest lecture of Smt. Ubale on Blood group analysis. Mr. C.B. Jawale, Dr. Mrs. S.P. Nalawade, Dr. Miss. K. J. Kamble and Miss N.A. Shaikh conducted the practicals and theory period.

After completing this course students will differentiate various haematological procedures and the use of basic equipment essential to working in a Clinical Haematology Laboratory.



Head

Department of Zoology
D. P. Bhosale College Koregaon



"Education through Self-help is our Motto"- KARMAVEER
Rayat Shikshan Sanstha's



D.P. Bhosale College, Koregaon

District – Satara. (M.S.)
NAAC Reaccredited 'A' (with CGPA 3.12)

Skill based Course

CERTIFICATE

This is to certify that **Mr. / Miss.** ----- **Class :** -----

has successfully completed "**Skill based Certificate Course**" on -----

----- From ----- to ----- Organized by Department of Zoology, D. P. Bhosale College,

Koregaon, District- Satara, (M.S.).

Incharge



Head
Department of Zoology