

To,
The Principal
Shri Shivaji Science College,
Nagpur

Subject: Permission to Conduct Certificate Course in Advanced Haematology: Diagnosis and Management.

Respected sir,


This is to request you that Certificate Course in Advanced Haematology: Diagnosis and Management has been organised as a part of UG/PG Curriculum. As the course coordinator, I assure you that this program will enhance the skills and knowledge of our students. It covers essential topics related to haematology, and successful completion will result in a valuable certificate.

I kindly request your permission to proceed with organizing this course. We have already prepared the course content, and experienced faculty members are willing to conduct the sessions. So please grant us permission to conduct the course .

Please do the Needful and Oblige.

Thanking you

Date:- 10/01/2024
Place:- Nagpur


Yours Faithfully

Dr. A. D. Bobdey
Professor & Head
Department of Zoology,
Shri Shivaji Science College,
Congress Nagar, Nagpur-12.

permitted
MDume

Shivaji Education Society Amravati's
Science College Congress Nagar, Nagpur
Department of Zoology
Session: 2023-24

NOTICE

**CERTIFICATE COURSE IN "ADVANCED HAEMATOLOGY:
DAIGNOSIS AND MANAGEMENT"
REGISTRATION OPEN**

Date: 10/01/2024

All students of B.Sc. I, II, III are informed that the Department of Zoology, Shri Shivaji Science College, Nagpur is pleased to announce the opening of registrations for the **Certificate Course in Advanced Haematology: It's Diagnosis and Management**. This course is designed to provide students with advanced knowledge and practical skills in Haematology.

Only 50 seats are available for the course, admission will be done on first come first admit basis.

Interested student can give their names to the course coordinator before 20/01/24.

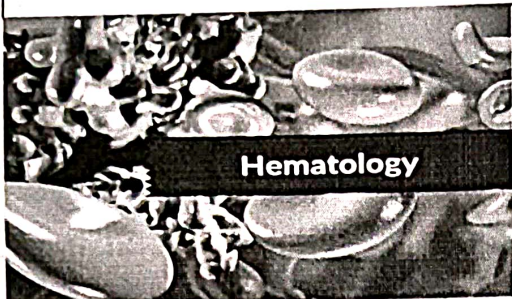
Course coordinator: Dr. R. A. Patil Bhagat

Rupali

Dr. R. A. Patil Bhagat
Coordinator

Advanced Haematology: It's Diagnosis and Management.
Department of Zoology

CERTIFICATE COURSE IN ADVANCED HEMATOLOGY: DIAGNOSIS AND MANAGEMENT



**Free Certificate course for
College Students**

Duration – 30 Hours (10 Weeks)

**Process of Registration- Early
birds will be admitted**

Course Objectives:

1. To understand the scope and importance of hematology.
2. To learn the function of normal cellular components and the formation of blood.
3. To differentiate between various hematological disorders and their management.
4. To gain hands-on experience with hematology laboratory equipment and procedures.
5. Let the students understand the human blood and its disorders based on an up-to-date knowledge and in a simple stylish way.
6. Familiarize students with the pathophysiological background of main blood disorders.

Hematology is a fascinating and vital field of medicine that focuses on the study of blood, blood-forming organs, and blood diseases. It is the branch of medicine concerned with the study of the cause, prognosis, treatment, and prevention of diseases related to blood. It covers a wide range of disorders including but not limited to hemophilia, leukemia, lymphoma, and sickle-cell anemia. Hematology is usually a part of the curriculum where students learn the basics of blood diseases and their treatments. The field of hematology offers a wide range of career opportunities. This course offers an exciting career path, impactful research opportunities, It's a field with immense potential for growth and fulfillment.



**Department of Zoology
SSES Amt's Science College, Congress
Nagar, Nagpur**

Last Date for Registration: 20/01/2024

For Registration Contact: Dr. R.A. Patil Bhagat (Coordinator)

Course Title: Certificate Course in Advanced Hematology: Diagnosis and Management (Biomedical Science)

Course Coordinator: Dr. Mrs. R. A. Patil Bhagat

Course description:

Hematology is a fascinating and vital field of medicine that focuses on the study of blood, blood-forming organs, and blood diseases. It is the branch of medicine concerned with the study of the cause, prognosis, treatment, and prevention of diseases related to blood. It covers a wide range of disorders including but not limited to **hemophilia, leukemia, lymphoma, and sickle-cell anemia**. Hematology is usually a part of the curriculum where students learn the basics of blood diseases and their treatments. The field of hematology offers a wide range of career opportunities. Hematologists are in high demand globally due to the prevalence of blood disorders. After retirement, many hematologists open their own clinics, ensuring a continuous source of income. Additionally, hematologists can work in hospitals, medical institutes, or pursue careers in research and academia. Haematology covers a broad range of diseases and conditions related to both malignant and non-malignant blood disorders. It is at the forefront of dynamic developments in molecular medicine. Advances include individualized targeted therapies, genome editing, gene and cellular therapies, and immune-based treatments. Students get to explore cutting-edge research and contribute to groundbreaking discoveries. Specialists in benign and malignant haematology are in increasing demand. Opportunities exist in basic science, clinical practice, and translational medicine. Haematologists play a crucial role in patient care and research. It offers deeply rewarding work. Students can directly help patients with life-threatening illnesses through hands-on care and practice-changing research. Advances have transformed some hematologic disorders from terminal diagnoses to curable diseases or manageable lifelong conditions. This course offers an exciting career path, impactful research opportunities. It's a field with immense potential for growth and fulfilment. This course will cover building block contains to understand healthcare and its integral relationship with zoology.

Course Objectives:

1. To understand the scope and importance of haematology.
2. To differentiate between various haematological disorders and their management.
3. To gain hands-on experience with haematology laboratory equipment and procedures.
4. Let the students understand the human blood and its disorders based on an up-to-date knowledge and in a simple stylish way.
5. Familiarize students with the pathophysiological background of main blood disorders.

Instructional Strategies: Theory class, Practical, Video clips, Models etc.

Evaluation Strategies: Oral discussions and Final MCQ examination.

Course outline: Course Outlines: (Relevance)

1. Basic Hematology
2. Cellular Function and Disorders
3. Stem Cells and Hematopoiesis
4. Leukocyte and Red Blood Cell (RBC) Function
5. Non-Malignant Disorders
6. Hematologic Malignancies
7. Blood Groups and Compatibility Testing
8. Transfusion Transmitted Diseases
9. Laboratory Techniques and Diagnostics
10. Blood Testing Principles
11. Interpretation of Hematologic Tests
12. Clinical Application: Case Studies and Clinical Correlation, Research Opportunities.

Course Outcomes (COs):

1. Students will be able to perform and interpret various hematological tests.
2. Students will understand the operational principles of hematology instruments and troubleshoot them.
3. Students will be able to evaluate normal and abnormal cell morphology and associate them with diseases.
4. Master the pathobiology of hematological disorders encountering in hospital practice.
5. Interpret diagnostic test results and erroneous test results and able to fix them.
6. This skill base course may offer the job opportunities in hospitals, pathology laboratories and research laboratories.

Duration of course: Ten weeks (30 Hours)

The Structure of Syllabus and system of evaluation -

Course	Theory Papers and Practical	Total Marks	
		Theory	Practical
	Theory paper- Advanced Hematology: Diagnosis and Management (Biomedical Science)	80	20

Certificate Course in Haematology	* Theory examination will be of MCQ pattern having 60 or 80 questions each with equal marks.		
	* Practical examination will be based on performance evaluation in the laboratory	100	

Principal

Principal.

Dr. R. A. Patil Bhagat

T. J. R. A. C.

Rupali

Dr. R. A. Patil Bhagat
Coordinator

Advanced Haematology: It's Diagnosis and Management.
Department of Zoology

SYLLABUS

Certificate course (10 weeks)
(Health Care (Biomedical Science))

Theory-

UNIT- I Introduction to Hematology

- Scope and importance of haematology.
- Equipment and chemicals used in a haematology laboratory.
- Morphology of normal and abnormal blood cells.
- Haematological disorders and their association with cell morphology.

UNIT – II Hematological Testing and Procedures

- Blood collection and preservation methods.

Practical-

- a) Blood sampling techniques and specimen acceptability
- b) Red blood cell count and White blood cell count
- c) Estimation of hemoglobin concentration
- d) Preparation of blood Smear, Platelet smear, Clotting and bleeding time
- e) Case studies and practical sessions on hematological analysis.

Distribution of marks: -

- | | |
|---|----|
| 1. Blood sampling techniques- | 05 |
| 2. Red blood cell count and White blood cell count- | 05 |
| 3. Estimation of hemoglobin - | 05 |
| 4. Case studies - | 05 |

- Preparation and staining of peripheral blood films.
- Haemoglobin estimation methods.
- Complete Blood Cell Count: RBC, WBC, Platelet count, and indices.

UNIT – III Hematological Disorders

- Anaemia and polycythaemia: Types, causes, and management.
- Leukopenia and leucocytosis: Diagnosis and treatment.
- Thrombocytopenia and thrombocytosis: Clinical significance and management.
- Elevated ESR and its implications.

Week-wise teaching plan:

Week	Hrs.	Syllabus
Week 1	1	Introduction to Hematology
	1	Scope and importance of haematology.
	1	Equipment and chemicals used in a haematology laboratory
Week 2	1	Equipment and chemicals used in a haematology laboratory
	2	Blood sampling techniques and specimen acceptability (Practical)
Week 3	1	Hematological disorders
	2	Blood collection and preservation methods.
Week 4	1	Preparation and staining of peripheral blood films.
	1	Hemoglobin estimation methods
Week 5	2	Complete Blood Cell Count: RBC, WBC, Platelet count, and indices.
	1	Anemia: Types, causes, and management.
Week 6	2	RBC and WBC Count (Practical)
	1	polycythemia: Types, causes, and management.
Week 7	2	Leukopenia and leukocytosis: Diagnosis and treatment
	1	Estimation of haemoglobin
Week 8	2	Preparation of blood Smear, Platelet smear, Clotting and bleeding time(practical)
	1	Estimation of haemoglobin (practical)
Week 9	2	Case studies (Practical)
	1	Thrombocytopenia Clinical significance and management
Week 10	1	Thrombocytosis: Clinical significance and management.
	2	Elevated ESR and its implications.

SSES AMT'S SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR-12

**Certificate Course in Advanced Hematology: Diagnosis and
Management (Biomedical Science)
Time Table**

Day	Theory
Friday	RPB (B13) Theory 4.00 PM – 5.00 PM
Saturday	SVG (B13) Theory, 4.00 PM – 5.00 PM
	KIS (ZL) practical, 5.00 PM – 6.00 PM



Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur

Session: 2023-24

DEPARTMENT OF ZOOLOGY


Certificate course in Advanced Hematology: Diagnosis and Management

Sr. No	Roll No		Name of Student
1	Z101	Ku	ALONE DEVYANI ANAND
2	Z102		ATRAM PRATIK JOGA
3	Z103	Ku	ATRAM UNNATTI SHASHIKANT
4	Z104	Ku	BHISE GAYATRI RAVI
5	Z105	Ku	BORKAR SEJAL RAJESH
6	Z106	Ku	CHAPKE MOHINI SHANKAR
7	Z107		CHAUDHARY AYUSH SHRICHAND
8	Z108		CHAWHAN SAHIL PADMAKAR
9	Z109		CHIKRAM VAIDAVI ARVIND
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12	Z112	Ku	DHANDE PRABUDHA PRADIP
13	Z113	Ku	DUBEY POONAM SUSHIL
14	Z114	Ku	GAJBHIYE TANISHA VISHWAJIT
15	Z115	Ku	GHATURLE GRISHMA VINOD
16	Z116	Ku	HEDAOO GAYATRI MANOJ
17	Z117	Ku	JADHAV TANUSHREE SUHAS
18	Z118	Ku	KHAN INJILA NADIM
19	Z119	Ku	KUKADE ASHLESHA DHANESH
20	Z120	Ku	LOKHANDE ANUSHKA PRAVIN
21	Z121	Ku	MAHAJAN BHUMI SUDHAKAR
22	Z122	Ku	MANDALE TANVI BABAN
23	Z123		MANSURE SANYUKTA SANJAY
24	Z124		MASRAM SUHANI GANESH
25	Z125	Ku	MOHABIYA KASAK KAMAL

26	Z126	Ku	NAGPURE GAYATRI TEJLAL
27	Z127	Ku	PAWARE VANSHIKA RAJESHWAR
28	Z128		PENDRAM ANKIT DAYARAM
29	Z129	Ku	RAJPUT MADHURA CHANDRASHEKHAR
30	Z130	Ku	SAHOO ABHIPSHA BASANT KUMAR
31	Z131	Ku	SHENDE KASAK PRAVIN
32	Z132		SHENDE KASHISH GOPAL
33	Z133	Ku	SHENDRE VAISHALI NARENDRA
34	Z134	Ku	SOLANKI MOHAK HITESH
35	Z135	Ku	SORDE TANSHREE JAGDISH
36	Z136	Ku	SUTHAR SANGITA PUKHRAJ
37	Z137	Ku	TAMBUSKAR EKTA SANJAY
38	Z138	Ku	TICHKULE ALANKAR
39	Z139	Ku	UIKEY BHUVNESHWARI UMESH
40	Z140	Ku	VINCHURKAR KANAK ASHISH
41	Z141	Ku	WANJARI APEKSHA NAGSEN
42	Z142	Ku	WANKHEDE SHREYA DNYANESHWAR
43	Z143		YADAV DIPESH GYANESHWAR
44	Z144	Ku	YADAV SOUMYA SUNIL
45	Z145	Ku	ZADE AKANKSHA SANJAY
46	Z146	Ku	ADROKAR TULNA DILIP
47	Z147		AGNIHOTRI DEVESH MAHESH
48	Z148	Ku	ALAM ALIYA MD AFTAB
49	Z149	Ku	ALONE KHUSHI PRABHUDAS
50	Z150	Ku	AMBOLIKAR ISHIKA MANISH

Coordinator

Name: Dr. R.A. Patil Bhagat


Head of the Zoology Department

Dr. A. D. Bobdey
Professor & Head
Department of Zoology,
Shri Shivaji Science College,
Congress Nagar, Nagpur-12.

Shri Shivaji Education Society Amravati's
Science College Congress Nagar, Nagpur
Department of Zoology
Session: 2023-24

NOTICE

Date: 20/01/2024

All the students of B.Sc. I, II, III are hereby informed that classes of Certificate Course in Advanced Hematology: Diagnosis and Management will start from 01 February 2024 to 07 April 2024. All are informed to attend the lecture.

Time Table

Day	Theory
Friday	RPB (B13) Theory 4.00 PM – 5.00 PM
Saturday	SVG (B13) Theory, 4.00 PM – 5.00 PM
	KIS (ZL) practical, 5.00 PM – 6.00 PM

Rupali

Dr. R. A. Patil Bhagat
Coordinator

Advanced Haematology: It's Diagnosis and Management.
Department of Zoology

Shri Shivaji Education Society Amravati's
Science College Congress Nagar, Nagpur
Department of Zoology
Session: 2023-24

NOTICE

CERTIFICATE COURSE EXAMINATION SCHEDULE

Date: 15/10/2024

All the students of B.Sc. I, II, III enrolled in the **Certificate Course in Advanced Haematology: Diagnosis And Management**, This is to inform you that the examination for the certificate course will be held as per the following schedule:

- **Exam Date:** 27 April 2024
- **Time:** 10:00 am to 10:45 am
- **Venue:** Shri Shivaji Science College, Nagpur

All the students have to reached 15 min before the exam time.



Dr. R. A. Patil Bhagat
Coordinator

Advanced Haematology: It's Diagnosis and Management.
Department of Zoology



Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur
Session: 2023-24

DEPARTMENT OF ZOOLOGY

Certificate course in Advanced Hematology: Diagnosis and Management

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			CHANDRASHEKHAR	<u>Chandrashekar</u>
30	Z130	Ku	SAHOO ABHIPSHA BASANT KUMAR	<u>Abhipsha.</u>
31	Z131	Ku	SHENDE KASAK PRAVIN	<u>Kasak.</u>
32	Z132		SHENDE KASHISH GOPAL	<u>Ka.</u>
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35	Z135	Ku	SORDE TANSHREE JAGDISH	<u>Tanshree</u>
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39	Z139	Ku	UIKEY BHUVNESHWARI UMESH	<u>Bhuvneshwari</u>
40	Z140	Ku	VINCHURKAR KANAK ASHISH	<u>Kanak</u>
41	Z141	Ku	WANJARI APEKSHA NAGSEN	<u>Apeksha.</u>
42	Z142	Ku	WANKHEDE SHREYA DNYANESHWAR	<u>Shreya</u>
43	Z143		YADAV DIPESH GYANESHWAR	<u>Dipesh</u>
44	Z144	Ku	YADAV SOUMYA SUNIL	<u>Soumya</u>
45	Z145	Ku	ZADE AKANKSHA SANJAY	<u>Akanksha</u>
46	Z146	Ku	ADROKAR TULNA DILIP	<u>Tulna.</u>
47	Z147		AGNIHOTRI DEVESH MAHESH	<u>D.A.</u>
48	Z148	Ku	ALAM ALIYA MD AFTAB	<u>Aliya</u>
49	Z149	Ku	ALONE KHUSHI PRABHUDAS	<u>Khushi</u>
50	Z150	Ku	AMBOLIKAR ISHIKA MANISH	<u>Ishika</u>

~~Co~~-ordinator Rupali

Name: Dr. R.A. Patil Bhagat

Dr. A. D. Bobdey
Head of the Zoology Department

Dr. A. D. Bobdey
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Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur
DEPARTMENT OF ZOOLOGY
Academic session 2023-2024

Certificate course in
ADVANCED HEMATOLOGY: DIAGNOSIS AND MANAGEMENT
MCQ TEST EXAMINATION

Time: 45 min

Maximum Marks 80 ⁵⁶

Roll. No.: 2105

N.B.: Solve all the questions

✓ Tick for right answer

1. An example of a waste product from the breakdown of hemoglobin is ____.

- ✓ A. Transferrin B. Hemoglobin S C. Biliverdin D. Jaundice

2: Ejection of blood from the right ventricle will continue until ____.

- ✓ A. Pressure in the pulmonary artery is greater than pressure in the right ventricle
B. Pressure in the pulmonary artery is less than pressure in the right ventricle
C. Pressure in the aorta is greater than pressure in the right ventricle

3: Except for _____, the following statements about blood are true.

- ✓ A. Contains about 55 percent plasma B. PH is slightly acidic
C. Contains dissolved gases D. Viscosity is five times greater than water

4: Leukopenia ____.

- ✓ A. The volume of RBC in a blood sample
B. Type AB blood contains antigens A and B.
C. May indicate a disease such as cirrhosis of the liver or tuberculosis

5: Mature _____ are the most numerous blood cells and do not have a nucleus.

- ✓ A. Erythrocytes B. Monocyte C. Megakaryocyte D. Platelets

6: Normal whole blood contains _____ g of hemoglobin per 100 ml.

- ✓ A. 4-8 B. 12-18 C. 15-20 D. 30-35 E. 42-48

7: Plasma is _____ while formed elements are ____.

- ✓ A. A blood gas; blood clots
B. The liquid portion of blood; the cells
C. Lacking in protein; regulators of blood osmolality

8: The least numerous but largest of all agranulocytes is the ____.

- ✓ A. Monocyte B. Basophil C. Erythrocytes

9: The majority of glomeruli are located in the _____ of the kidney.

- ✓ A. Vasa recta B. Medulla C. Cortex D. Pelvis

10: Hormones called _____ are involved in regulation of white blood cell populations.

- ✓ A. Erythropoietin B. Bilirubin C. Thrombopoietin D. Colony-stimulating factors

11: Granulocytes are formed in red bone marrow, or _____oid tissue.

- 02 A. Hemat B. Erythr ☒ C. Myel D. Eosin

12: No visible cytoplasmic granules are present in _____.

- 02 A. Basophils. ☒ B. Monocytes. C. Eosinophils. D. Neutrophils

13: The total white blood cell count ranges from _____ to _____/mm³ of blood.

- 02 A. 2400, 5000 ☒ B. 4800, 10,800 C. 500, 2000 D. 7200, 16,000

14: A person with type ab blood has _____ rbc antigen(s).

- 02 A. No B. Anti-A and anti-B C. Anti-A D. Anti-B ☒ E. A and B

15: _____ is a plasma protein that serves as a Défense mechanism of the immune system.

- 02 A. Albumin ☒ B. Globulin C. Fibrinogen D. Prothrombin

16: Agglutination of rbc's is the result of a transfusion reaction caused by _____ blood.

- 02 ☒ A. Mismatched B. Matched C. Both A & B D. None of the above

17: The common pathway in coagulation ends with _____.

- 00 ☒ A. Conversion of soluble fibrinogen to insoluble fibrin
☒ B. May indicate a disease such as cirrhosis of the liver or tuberculosis
☒ C. Both
D. None of these

18: With respect to abo and rh blood groups, there are _____ different blood types.

- 02 A. Ten B. Four ☒ C. Eight

19: A person who lacks agglutinin a but has agglutinin b would have blood type _____.

- 00 A. A B. B ☒ C. AB D. O

20: Vacuum blood tubes come in all of the following sizes except _____ ml.

- ☒ A. 20 B. Rubber C. 90 D. Cost

21: _____ involves a cascade of reactions leading to the conversion of fibrinogen to fibrin.

- 02 A. Vascular spasm. B. The platelet phase. C. Retraction ☒ D. Coagulation

22: All of the following conditions impair coagulation except _____.

- ☒ A. Vitamin K deficiency B. Vascular spasm C. Liver disease

23: Blood reticulocyte counts provide information regarding _____.

- 00 ☒ A. Rate of erythrocyte formation B. Rate of platelet formation
C. Clotting ability of the blood D. WBC ability to defend the body against disease

24: The structural framework of a blood clot is formed by _____.

- 02 ☒ A. Fibrinogen B. Increase hypoxemia C. Thrombus; embolus

25: Abnormally low levels of erythrocytes caused by excessive bleeding is called _____.

- 02 A. Sickle-cell anemia B. Polycythemia ☒ C. Hemorrhagic anemia

26: Complications of aplastic anemia generally do not include _____.

02 ☒ A. Bleeding disorders. B. Suppressed immunity. C. Impaired formation of all formed elements.

00 27: During leukopoiesis, neutrophils are derived from _____.
A. Myeloblasts ☒ B. Biliverdin C. Type O-

00 28: James has a hemoglobin measurement of 16 g/100 ml blood. this is _____.
A. Within the normal range ☒ B. Abnormally low. C. Above normal

02 29: The hematocrit for the female with iron-deficiency anemia was _____.
A. Below normal ☒ B. Above normal C. Normal

02 30: The oxygen-carrying capacity of the blood is evaluated using _____.
A. Cholesterol measurements B. Hemoglobin measurements
☒ C. Hematocrit measurements and hemoglobin measurements

02 31: The stoppage of blood loss, or _____, is very important to the maintenance of homeostasis.
A. Hematopoiesis ☒ B. Neutrophil C. Lymphocytes

02 32: The total volume of blood in the body of a 76-kg man is approximately _____ liters.
A. 10. ☒ B. 5.3. C. 4.4. D. 3.8.

02 33: Tissue factor (factor iii) is a factor in the _____ pathway.
A. Fibrinolytic B. Retraction ☒ C. Extrinsic D. Intrinsic

00 34: The special type of hemoglobin present in fetal red blood cells is _____.
A. Hemoglobin F B. Hemoglobin B C. Hemoglobin A ☒ D. Hemoglobin

00 35: The antibodies that attack antigens on foreign rbc's are called _____.
☒ A. Albumin B. Agglutinins C. Red bone marrow

02 36: Stage 2 of labor lasts _____ for a first baby and _____ in later births.
A. An average of 12 to 14 hours; 4 to 6 hours ☒ B. An average of 4 to 6 hours; 20 to 50 minutes
C. About 50 minutes; 20 minutes

02 37: The name of a _____ drug is always spelled with a capital letter.
☒ A. Brand-name B. Auscultation C. Intraoral D. None of these

02 38: The diagnostic term scurvy literally means _____ and is the lack of vitamin c in the diet.
☒ A. To scratch B. To nourish C. Rough D. None of these

02 39: All of the following can be expected with polycythemia except _____.
☒ A. Low blood viscosity B. High hematocrit C. High blood pressure

02 40: Athletes use the hormone epo to _____.
☒ A. Strengthen their immune systems B. Stay hydrated
C. Increase their hematocrit D. Coagulation

Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur
DEPARTMENT OF ZOOLOGY
Academic session 2023-2024
Certificate course in
ADVANCED HEMATOLOGY: DIAGNOSIS AND MANAGEMENT
PRACTICAL EXAMINATION

Time: 1-2HRS.

Maximum Marks: 20

- | | |
|---|----|
| Q1. Write about any one Blood sampling techniques | 05 |
| Q2. Red blood cell count. | 05 |
| Q3. Estimation of hemoglobin | 05 |
| Q4. Case studies - | 05 |

Patient Profile:

- **Age:** 28 years old
- **Gender:** Female
- **Medical History:** No significant medical history; non-smoker; occasional alcohol consumption

Presenting Complaint: The patient presents with a 3-week history of increasing fatigue, shortness of breath on exertion, and noticeable paleness. She also reports a recent onset of frequent nosebleeds and bruising easily.

Physical Examination:

- **Vital Signs:** Blood pressure 110/70 mmHg, heart rate 92 bpm, respiratory rate 18 breaths/min, temperature 37.0°C

Laboratory Results:

- **Complete Blood Count (CBC):**
 - Hemoglobin: 8.2 g/dL (Normal: 12-16 g/dL)
 - White Blood Cells (WBC): $3.0 \times 10^9/L$ (Normal: $4-11 \times 10^9/L$)
 - Platelets: $50 \times 10^9/L$ (Normal: $150-400 \times 10^9/L$)
- **Peripheral Blood Smear:**
 - Hypochromic, microcytic red cells
 - Decreased platelets
 - No abnormal white cell precursors

Questions:

1. What is the most likely diagnosis based on the patient's presentation and laboratory results?
2. What additional tests would you order to confirm your diagnosis?
3. Outline a potential treatment plan for this patient.
4. Discuss the possible complications if this condition is left untreated.



Shri Shivaji Education Society Amravati's
Science College, Congress Nagar, Nagpur
Session: 2023-24
DEPARTMENT OF ZOOLOGY
Certificate course in HAEMATOLOGY

Sr. No	Roll NO		Name of Students	Marks		Total Marks	Grades
				Theory	Practical		
1	Z101	Ku	ALONE DEVYANI ANAND	70	14	84	A+
2	Z102		ATRAM PRATIK JOGA	62	15	77	A
3	Z103	Ku	ATRAM UNNATTI SHASHIKANT	48	18	66	B+
4	Z104	Ku	BHISE GAYATRI RAVI	66	18	84	A+
5	Z105	Ku	BORKAR SEJAL RAJESH	56	19	75	A
6	Z106	Ku	CHAPKE MOHINI SHANKAR	60	19	79	A
7	Z107		CHAUDHARY AYUSH SHRICHAND	42	20	62	B+
8	Z108		CHAWHAN SAHIL PADMAKAR	58	19	77	A
9	Z109		CHIKRAM VAIDAVI ARVIND	68	18	86	A+
10	Z110		DARODE ROHAN CHANDRASHEKHAR	72	14	86	A+
11	Z111	Ku	DEHANKAR MANISHA SHASHIKANT	74	16	80	A
12	Z112	Ku	DHANDE PRABUDHA PRADIP	80	16	96	O
13	Z113	Ku	DUBEY POONAM SUSHIL	32	17	49	C
14	Z114	Ku	GAJBHIYE TANISHA VISHWAJIT	42	18	60	B+
15	Z115	Ku	GHATURLE GRISHMA VINOD	28	18	46	C
16	Z116	Ku	HEDAOO GAYATRI MANOJ	42	19	61	B+
17	Z117	Ku	JADHAV TANUSHREE SUHAS	46	20	66	B+
18	Z118	Ku	KHAN INJILA NADIM	54	19	73	A
19	Z119	Ku	KUKADE ASHLESHA DHANESH	72	13	85	A+
20	Z120	Ku	LOKHANDE ANUSHKA PRAVIN	62	12	74	A
21	Z121	Ku	MAHAJAN BHUMI SUDHAKAR	54	12	66	B+
22	Z122	Ku	MANDALE TANVI BABAN	66	12	78	A
23	Z123		MANSURE SANYUKTA SANJAY	50	13	63	B+
24	Z124		MASRAM SUHANI GANESH	42	14	56	B

25	Z125	Ku	MOHABIYA KASAK KAMAL	72	18	90	A+
26	Z126	Ku	NAGPURE GAYATRI TEJLAL	60	15	75	A
27	Z127	Ku	PAWARE VANSHIKA RAJESHWAR	44	20	64	B+
28	Z128		PENDRAM ANKIT DAYARAM	64	19	83	A+
29	Z129	Ku	RAJPUT MADHURA CHANDRASHEKHAR	66	18	84	A+
30	Z130	Ku	SAHOO ABHIPSHA BASANT KUMAR	68	17	85	A+
31	Z131	Ku	SHENDE KASAK PRAVIN	70	15	85	A+
32	Z132		SHENDE KASHISH GOPAL	72	13	85	A+
33	Z133	Ku	SHENDRE VAISHALI NARENDRA	80	15	95	O
34	Z134	Ku	SOLANKI MOHAK HITESH	68	12	80	A
35	Z135	Ku	SORDE TANSHREE JAGDISH	58	18	76	A
36	Z136	Ku	SUTHAR SANGITA PUKHRAJ	50	18	68	B+
37	Z137	Ku	TAMBUSKAR EKTA SANJAY	42	14	56	B
38	Z138	Ku	TICHKULE ALANKAR	40	20	60	B
39	Z139	Ku	UIKEY BHUVNESHWARI UMESH	38	11	49	C
40	Z140	Ku	VINCHURKAR KANAK ASHISH	36	19	55	B
41	Z141	Ku	WANJARI APEKSHA NAGSEN	44	16	60	B
42	Z142	Ku	WANKHEDE SHREYA DNYANESHWAR	42	12	54	B
43	Z143		YADAV DIPESH GYANESHWAR	58	17	75	A
44	Z144	Ku	YADAV SOUMYA SUNIL	30	181	48	C
45	Z145	Ku	ZADE AKANKSHA SANJAY	78	18	96	O
46	Z146	Ku	ADROKAR TULNA DILIP	70	19	89	A+
47	Z147		AGNIHOTRI DEVESH MAHESH	66	20	86	A+
48	Z148	Ku	ALAM ALIYA MD AFTAB	58	20	78	A
49	Z149	Ku	ALONE KHUSHI PRABHUDAS	70	20	90	A+
50	Z150	Ku	AMBOLIKAR ISHIKA MANISH	72	13	85	A+

Co-coordinator

Name: _____

Rupali

Head of the Zoology Department

Calu

Shri Shivaji Education Society Amravati's
Science College, Nagpur
Attendance Sheet 2023-24

Coordinator: _____ Certificate course in Advanced Hematology: Diagnosis and Management

Course duration - 30 Hours

Sr. No	Name of Students	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	Total
1	Ku ALONE DEVYANI ANAND	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2	Ku ATRAM PRATIK JOGA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3	Ku ATRAM UNNATI SHASHIKANT	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4	Ku BHISE GAYATRI RAVI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
5	Ku BORKAR SEJAL RAJESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
6	Ku CHAPKE MOHINI SHANKAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
7	Ku CHAUDHARY AYUSH SHRICHAND	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
8	Ku CHAWHAN SAHIL PADMAKAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
9	Ku CHIKRAM VAIDAVI ARVIND	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
10	Ku DARODE ROHAN CHANDRASHEKHAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
11	Ku DEHANKAR MANISHA SHASHIKANT	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
12	Ku DHANDE PRABUDHA PRADIP	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
13	Ku DUBEY POONAM SUSHIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
14	Ku GAIBHIYE TANISHA VISHWAJIT	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
15	Ku GHATURLE GRISHMA VINOD	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
16	Ku HEDAOO GAYATRI MANOJ	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
17	Ku JADHAV TANUSHREE SUHAS	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
18	Ku KHAN INJILA NADIM	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
19	Ku KUKADE ASHLESHA DHANESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
20	Ku LOKHANDE ANUSHKA PRAVIN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
21	Ku MAHAJAN BHUMI SUDHAKAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
22	Ku MANDALE TANVI BABAN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
23	Ku MANSURE SANYUKTA SANJAY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
24	Ku MASRAM SUHANI GANESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
25	Ku MOHABIYA KASAK KAMAL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	


Head of the Zoology Department

Coordinator: Rupali

Dr. A. D. Kulkarni
Principal & Head
Department of Zoology
Shri Shivaji Education Society
Science College, Nagpur

Sr. No	Name of Students	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	Total
26	Ku NAGPURE GAYATRI TEJAL				P	P	P	P	P	P	P																					
27	Ku PAWARE VANSHIKA RAJESHWAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
28	PENDRAM ANKIT DAYARAM	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
31	Ku RAJPUT MADHURA CHANDRASHEKHAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
32	Ku SAHOO ABHIPSHA BASANT KUMAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
33	Ku SHENDE KASAK PRAVIN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
34	SHENDE KASHISH GOPAL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
35	Ku SHENDRE VAISHALI NARENDRA	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
36	Ku SOLANKI MOHAK HITESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
37	Ku SORDE TANSHREE JAGDISH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
38	Ku SUTHAR SANGITA PUKHRAJ	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
39	Ku TAMBUSKAR EKTA SANJAY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
40	Ku TICHKULE ALANKAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
41	Ku UIKEY BHUVNESHWARI UMESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
42	Ku VINCHURKAR KANAK ASHISH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
43	Ku WANJARI APEKSHA NAGSEN	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
44	Ku WANKHEDE SHREYA DNYANESHWAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
45	YADAV DIPESH GYANESHWAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
46	Ku YADAV SOUMYA SUNIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
47	Ku ZADE AKANKSHA SANJAY	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
48	Ku ADROKAR TULNA DILIP	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
49	AGNIHOTRI DEVESH MAHESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
50	Ku ALAM ALIYA MD AFTAB	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Head of the Zoology Department

Coordinator: 

Shivaji Education Society Amravati's
Science College Congress Nagar, Nagpur
Department of Zoology
Session: 2023-24

Report On Certificate Course In “Advanced Hematology: Diagnosis and Management”

Department Of Zoology, Shri Shivaji Science College, Nagpur conducted certificate course on Advanced Hematology: Diagnosis and Management. Hematology is a fascinating and vital field of medicine that focuses on the study of blood, blood-forming organs, and blood diseases. It is the branch of medicine concerned with the study of the cause, prognosis, treatment, and prevention of diseases related to blood. It covers a wide range of disorders including but not limited to hemophilia, leukemia, lymphoma, and sickle-cell anemia. Hematology is usually a part of the curriculum where students learn the basics of blood diseases and their treatments. The field of hematology offers a wide range of career opportunities. The **Certificate Course in Hematology** was designed to provide students with a solid foundation in hematology, equipping them with essential knowledge and practical skills. This course aimed to enhance their understanding of blood disorders, laboratory techniques, and diagnostic methods.

Certificate course on Advanced Hematology: Diagnosis and Management was undertaken by the students of B.Sc. I, II and III of CBZ group, as a part of additional academic curriculum under the guidance of Dr. R. A. Patil Bhagat with view to provide complete knowledge on hematology. 50 students participated in the ten week (30 hours) certificate course in Advanced Hematology : Diagnosis And Management. The **Certificate Course in Hematology** empowered students to excel in clinical practice, research, and diagnostics.

ACTION TAKEN: this course equips participants with the knowledge and skills necessary for excellence in the field of hematology. By completing this certificate program, individuals can make meaningful contributions to patient health and well-being.

Rupali

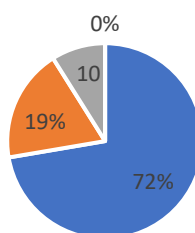
Dr. R. A. Patil Bhagat
Coordinator

Advanced Haematology: It's Diagnosis and Management.
Department of Zoology

Feedback analysis

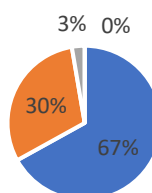
How would you rate the overall quality of the course content?

- excellent
- good
- fair
- poor



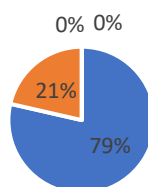
How effective were the practical sessions in enhancing your understanding of hematology?

- very relevant
- relevant
- somewhat relevant
- not relevant



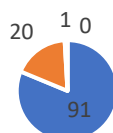
How well did the course meet your expectations in terms of knowledge gained?


- very likely
- likely
- unlikely
- very unlikely



How likely are you to recommend this course to your colleagues or peers?

- VERY LIKELY
- LIKELY
- UNLIKELY




Internal Quality Assurance Cell
(IQAC)
S. S. E. S. A. Science College
Congress Nagar, Nagpur.




Principal
S. S. E. S. Amravati's
Science College, Nagpur.



Shri Shivaji Education Society Amravati's
**SCIENCE COLLEGE, CONGRESS NAGAR,
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A College with Potential for Excellence



CERTIFICATE

Mr./Ku. Prabhuda Dande is awarded with certificate on successful completion of the course entitled, Certificate course in "Advanced Haematology: Diagnosis and Management".

Session 2023-24 under Add-on course conducted for 30 hours from 01/02/2024 to 07/04/2024 by Department of Zoology, SSES's, Science College, congress Nagar, Nagpur 440012.

He/She has passed the Examination with '___' Grade.

Rupali

Dr. Mrs. R. A. Patil Bhagat
Coordinator, Department of Zoology

notary

Prof. M. P. Dhore
Principal, Science College, Nagpur