Smt. A.S. M. College of Sharland on the state of the stat

ACADEMIC YEAR: 2022-2023

COURSE: B.Sc.

FACULTY: Ms. Pallavi P

Semester: 4th

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/ Conduct ed	Teaching Pdagogy/ Methodolog y used
13	Plant Genetic resource Management:- Conservation of Genetic Resource of Economic plants. In-Situ:- Biosphere reservoirs, National parks, Wild life sanctuaries. Ex-Situ: - Field Gene banks, Seed banks. Tissue culture & Cryo-preservation. Brief Study of National & International organizations concerned with explanation, collection and conservation such as BSI (Botanical Survey of India) NBPGR (National Bureau of Plant genetic resources) CGAIR (Consultative Group for Indian agriculture research.)	Jul-Aug	10	11	Black Board & Chalk,

Dr. Bheemanagouda N Patil

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

Principal

Smt. Allum Sumangalamma Memorial College for Women, Ballari-583103

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Semester: III

Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	ANGIOSPERM ANATOMY AND PLANT TISSUES:				
,	Introduction, objectives and scope of Plant Anatomy, Plant primary and secondary cell wall structure. Tissue and tissue systems - Meristematic tissue, permanent tissue and secretary cells. Classification of meristem: (apical, intercalary and lateral), primary and secondary meristems.	8 periods/ Oct		8	chart & chalk
	Apical meristem: Theories on organization of meristem (apical cell theory, TunicaCorpus theory, histogen theory and Korper-Kappe theory).Quiescent centre, Root cap.	8 periods/ Nov	28	8	chart & chalk
=	Differentiation of root, stem and leaf. Types of vascular bundles and Vascular cambium Structure of Dicot root: primary (Tridax and Cicer). Structure of monocot root (Maize). Structure of Dicot stem: Primary and secondary growth (Tridax and Cicer).	8 periods/ Dec		8	chart & chalk
9.7	Structure of Monocot stem (Maize). Structure of Dicot and Monocot leaf: primary structure (Tridax and Maize), Stomatal types. Anomalous secondary growth: Boerhaavia (dicot stem) and Dracaena (monocot stem)	8 periods/ Jan		8	chart & chalk

Signature of the Principal

Signature of the HOD

Dr. Bheemanagouda N Patil M.Sc.,Ph.D.

V.V SSANGHA'S

Smt. A.S.M. COLLEGE FOR WOMEN, BALLARI DEPARTMENT OF BOTANY TEACHING PLAN

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Semester: V



Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Meristems General account, Classification of meristems based on—Origin, function, position and development.	4 periods/ Oct	4	4	chart & chalk
11	Tissues General account of Permanent tissues and tissue systems: Epidermal tissuesystem, Ground tissue system, Vascular tissue system and Secretory tissue system structure of xylem and phloem.	4 periods/ Oct	4	4	chart & chalk
III	Anatomy Anatomy of Dicot stem, root and leaf (ex: Bengal gram).	4 periods/ Nov	4	4	chart & chalk
IV	Anatomy Anatomy of Monocot stem, root and leaf (ex: Grass).	4 periods/ Dec	4	4	chart & chalk
V	Normal secondary growth Normal secondary growth in Dicot stem and root. A brief account of cambium (origin,types and function).	4 periods/ Jan	6	4	chart & chalk
	Origin and development of lateral roots. A brief account of anamolous secondary growth in				- 8
VI	A brief account of anamolous secondary growth in stem – Study of anamolous secondary growth in Bougainvillia, Boerhaavia and Dracena (stem).	4 periods/ Feb	4	4	chart & chalk

Signature of the Principal

Dr. Bheemanagouda N Patil

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Semester: II



Unit No.	Title of the chapter and Description	Period/ Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Diversity of non flowering plants:				
	Morphology, reproduction & life cycles of Diatoms. Importance of Diatooms, General account of Blue-Green Algae, Algal blooms and toxins	6 periods/ June	10	6	chart & chalk
=	Morphology and life cycle of Bryophytes: Riccia, Anthocerous, Funaria	6 periods/ july		6	chart & chalk

Signature of the Principal

Signature of the HOD

Dr. Bheemanagouda N Patil

Semester:

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Introduction to Ecology and Conservation Biology:				8
	definitions, Principles of ecology History, Major Indian contributions. Scope and importance of Ecology Ecological levels of Organization.Introduction to ecological factors,Climatic factors, light.	8 periods/ March	. 15	8	chart & chalk
	Introduction to ecological factors continuedTemperature, Precipitation, Humidity.Introduction to Edaphic factors, Soil, Types of soil, Chemical & Physical properties of soil, Ecological groups of plants & their adoptations, Xerophytes, Epiphytes, Hydrophytes & Halophytes	8 periods/ April		8	chart & chalk
II	Ecological Succession: Definition, types - Primary and Secondary, General stages of Succession, Hydrosere & Xerosere	8 periods/ may	5	6	chart & chalk

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Signature of the HOD

Or. Bheemanagouda N Patil
M.Sc.,Ph.D.

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Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Unit No.	Title of the chapter and Description	Period/ Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Biotechnology				
	Introduction to Biotechnology, Scope of Biotechnology, Applications of Biotechnology	4 periods/ March		4	chart & chalk
	Introduction to Genetic engineering, r- DNA Tecnology, Applications of r- DNA technology	4 periods/ April	. 18	4	chart & chalk
	Introduction to DNA fingerprinting & Applications of DNA finger printing	4 periods/ May	18	4	chart & chalk
	Transgenic plants, BT- Cotton, Golden rice	4 periods/ June		4	chart & chalk
	Plant tissue culture, Applications of plant tissue culture	4 periods/ July		4	chart & chalk

Semester: VI

Signature of the Principal

Signature of the HOD

Dr. Bheemanagouda N Patil M.Sc., Ph.D.

Semester: 1st

ACADEMIC YEAR: 2022-2023

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/ Condu cted	Teaching Pdagogy/ Methodolog y used
1	Microbial Diversity:-Introduction to microbial diversity; Methods of estimation; Hierarchical organization and positions of microbes in the living world. Whittaker's five-kingdom system and Carl Richard Woese's three-domain system. Distribution of microbes in soil, air, food and water. Significance of microbial diversity in nature.	Sept	5	7	Black Board & Chalk, PPT
2	History and developments of microbiology-Microbiologists and their contributions (Leeuwenhoek, Louis Pasteur, Robert Koch, Joseph Lister, Dmitri Iwanowski, Sergius Winogradsky and M W Beijerinck and Paul Ehrlich).	Sept/Oct	5	6	Black Board & Chalk, PPT
3	Microscopy-Working principle and applications of light, dark field, phase contrast and electron microscopes (SEM and TEM). Microbiological stains (acidic, basic and special) and Principles of staining. Simple, Gram's and differential staining.	Oct	5	6	Black Board & Chalk, PPT
4	Culture media for Microbes-Natural and synthetic media, Routine media -basal media, enriched media, selective media, indicator media, transport media, and storage media.	Oct	5	5	Black Board & Chalk
5	Sterilization methods -Principle of disinfection, antiseptic, tyndallisation and Pasteurization, Sterilization-Sterilization by dry heat, moist heat, UV light, ionization radiation, filtration.		5	6	PPT

1 28	Chemical methods of sterilization-phenolic compounds, anionic and cationic detergents.				583105 S
6	Microbial Growth-Microbial growth and measurement. Nutritional types of Microbes- autotrophs and heterotrophs, phototrophs and chemotrophs; lithotrophs and organotrophs.	Nov	5	6	PPT

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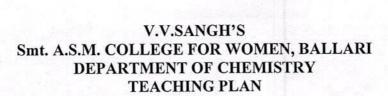
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Dr. Bheemanagouda N Patil M.Sc., Ph.D.

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

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Principal
Smt. Allum Sunangalamme Mamerial
College for Women, Ballari-583103





ACADEMIC YEAR: 2022-2023

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Semester: 5th

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/Con ducted	Teaching Pdagogy/ Methodology used
2	Plant Propagation and Nursery Management: 1. Tools and materials used in propagation, importance of green house 2. Plant propagation: — Methods of propagation — through seeds, cuttings, roots, corm, bulb, rhizome and leaf. Cuttings, layering, budding grafting. Nursery — definition, importance of nursery management, site selection, planning, budgeting, layout of nursery, preparation of nursery beds, raisiing of seedlings, transplanting techniques. 4. Green House: Types and significance Evolution: Brief account of theories of evolution-Darwinism, Lamrkism and mutation theory.	Oct/Nov	20	24	Black Board Chalk & PPT

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Dr. Bheemanagouda M Patil

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

Principal

Smt. Allum Sumangalamma Mamorial College for Women, Ballari-583103



ACADEMIC YEAR: 2022-2023

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Semester: 6th

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/Con ducted	Teaching Pdagogy/ Methodology used
12	Growth hormones – Auxins, Gibberllins, Cytokinins, ABA and Ethylene – their role in growth and applications (experimental study not necessary).	May	6		
13	Seed dormancy: General account, factors regulating Physiology of senescence: General account, role of plant growth regulators in senescence Plant Movements: Tropic and nastic movements, Geotropism, Thigmotropism, Phototropism, hydrotropism, Seismonasty, Thigmonasty	May/Jun	6		
14	Physiology of flowering: Photoperiodism and Vernalization, devernalization, florigen concept	Jun/July	2		
15	Nitrogen metabolism: Sources of nitrogen, nitrogen cycle and its importancee. Mechanism of biological nitrogen fixation	Aug .	4		

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Dr. Bheemanagouda N Patil

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

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Principal

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ACADEMIC YEAR: 2022-2023

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Semester: 2nd

Chapt er No	Title of the Chapter & Description	Period/M onth	NO. Of hours allotted	Hours taken/ Condu cted	Teaching Pdagogy/ Methodolog y used
1	Algae —Introduction and historical development in algology. General characteristics and classification of algae, Diversity- habitat, thallus organization, pigments, reserve food, flagella types, lifecycle and alternation of generation in Algae. Distribution of Algae.	May .	5	6	Black Board & Chalk,
2	Morphology and reproduction and life-cycles of Nostoc, Oedogonium, Chara, Sargassum and Batrachospermum. Diatoms and their importance. Blue-green algae-A general account. Algalblooms and toxins.	May/Jun	5	11	Black Board & Chalk, Biovisual Chart
3	Algal cultivation- Cultivation of microalgae- Spirulina and Dunaliella; Algal cultivation methods in India. Algal products- Food and Nutraceuticals, Feed stocks, food colorants; fertilizers, aquaculture feed; therapeutics and cosmetics; medicines; dietary fibres from algae and uses.	Jun/July	5	4	Black Board & Chalk,
4	Bryophytes – General characteristics and classification of Bryophytes, Diversity-habitat, thallus structure, Gametophytes and sporophytes.	July	5	4	Black Board & Chalk,
5	Distribution, morphology, anatomy, reproduction and life-cycles of Riccia, Anthoceros, and Funaria. Ecological and economic importance of Bryophytes. Fossil Bryophytes.	Aug	5	7	Black Board & Chalk,Biovi sual Chart

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Dr. Bheemanagouda N Patil M.Sc.,Ph.D.

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

Principal
Smt: Allum Sumangalamma Memorial
Soller- for Women, Ballari-580100

Semester: IV

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
ı	Introduction to Ecology and Conservation Biology:				
	definitions, Principles of ecology History, Major Indian contributions. Scope and importance of Ecology Ecological levels of Organization.Introduction to ecological factors,Climatic factors, light.	8 periods/ March	15	8	chart & chalk
el	Introduction to ecological factors continuedTemperature, Precipitation, Humidity.Introduction to Edaphic factors, Soil, Types of soil, Chemical & Physical properties of soil, Ecological groups of plants & their adoptations, Xerophytes, Epiphytes, Hydrophytes & Halophytes	8 periods/ April	- 15	8	chart & chalk
11	Ecological Succession: Definition, types - Primary and Secondary, General stages of Succession, Hydrosere & Xerosere	8 periods/ may	5	6	chart & chalk

Dr. Bheemanagouda N Patil M.Sc., Ph.D.

Assistant Professor Smt. A.S.M. College for Women Ballari-583103,

Smt. Allum Sumenastemma Wemerial 310**3** College for

BALLARI 583103.

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Semester:	Ш

Unit No.	Title of the chapter and Description	Period/ Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Diversity of non flowering plants:			B	
	Morphology, reproduction & life cycles of Diatoms. Importance of Diatooms, General account of Blue-Green Algae, Algal blooms and toxins	6 periods/ June	10	6	chart & chalk
	Morphology and life cycle of Bryophytes: Riccia, Anthocerous, Funaria	6 periods/ july	g (g	6	chart & chalk



V.V SSANGHA'S
Smt. A.S.M. COLLEGE FOR WOMEN, BALLARI
DEPARTMENT OF BOTANY
TEACHING PLAN

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Semester: VI

Assistant Professor HOD of Botany Smt. A.S.M. College for Women

M.Sc., Ph.D

Ballari-583103.

Dr. Bheemanagouda N Patil

Unit No.	Title of the chapter and Description	Period/ Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used		
1	Biotechnology						
n e	Introduction to Biotechnology, Scope of Biotecnology, Applications of Biotechnology	4 periods/ March	18	19		4	chart & chalk
	Introduction to Genetic engineering, r- DNA Tecnology, Applications of r- DNA technology	4 periods/ April			4	chart & chalk	
	Introduction to DNA fingerprinting & Applications of DNA finger printing	4 periods/ May		4	chart & chalk		
	Transgenic plants, BT- Cotton, Golden rice	4 periods/ June		4	chart & chalk		
	Plant tissue culture, Applications of plant tissue culture	4 periods/ July		4	chart & chalk		

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M



Semester: V

Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
1	Meristems General account, Classification of meristems based on—Origin, function, position and development.	4 periods/ Oct	4	4	chart & chalk
II	Tissues General account of Permanent tissues and tissue systems: Epidermal	9		ar Sto	#
	tissuesystem, Ground tissue system, Vascular tissue system and Secretory tissue system structure of xylem and phloem.	4 periods/ Oct	4	4	chart & chalk
III .	Anatomy Anatomy of Dicot stem, root and leaf (ex: Bengal gram).	4 periods/ Nov	4	4	chart & chalk
IV	Anatomy Anatomy of Monocot stem, root and leaf (ex: Grass).	4 periods/ Dec	4	4	chart & chalk
V	Normal secondary growth Normal secondary growth in Dicot stem and root. A brief account of cambium (origin,types and function).	4 periods/ Jan	6	4	chart & chalk
	Origin and development of lateral roots. A brief account of anamolous secondary growth in		August and a second		<i>8</i>
ZI	A brief account of anamolous secondary growth in stem – Study of anamolous secondary growth in Bougainvillia , Boerhaavia and Dracena (stem).	4 periods/ Feb	4	4	chart & chalk

Smt. Allum Sumangalamma Memerial College for Women, Ballari-553149

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Dr. Bheemanagouda N Patil M.Sc., Ph.D.

Semester: III

Academic Year:2022-23

Course: Botany

Name of the faculty: Shubha V.H.M

Unit No.	Title of the chapter and Description	Period/Month	No of hours alloted	Hours taken/ conducted	Teaching Pedagogy/ Methadology used
A	ANGIOSPERM ANATOMY AND PLANT TISSUES:	# 5	e Pool (de la lineace)		
	Introduction, objectives and scope of Plant Anatomy, Plant primary and secondary cell wall structure. Tissue and tissue systems - Meristematic tissue, permanent tissue and secretary cells. Classification of meristem: (apical, intercalary and lateral), primary and secondary meristems.	8 periods/ Oct	14	8	chart & chalk
æ	Apical meristem: Theories on organization of meristem (apical cell theory, TunicaCorpus theory, histogen theory and Korper-Kappe theory).Quiescent centre, Root cap.	vbf		8	chart & chalk
11	Ecological Succession: Definition, types - Primary and Secondary, General stages of Succession, Hydrosere & Xerosere	8 periods/ may	5	6	chart & chalk

Dr. Bheemanagouda N Patil M.Sc.,Ph.D.

Assistant Professor **HOD of Botany** Smt. A.S.M. College for Women Ballari-583103.

Principal

Smt. Allum Sumangalamma Memorial College for Women, Ballari-563103



Semester: 1st

ACADEMIC YEAR: 2021-2022

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/ Condu cted	Teaching Pdagogy/ Methodolog y used
1	Microbial Diversity:-Introduction to microbial diversity; Methods of estimation; Hierarchical organization and positions of microbes in the living world. Whittaker's five-kingdom system and Carl Richard Woese's three-domain system. Distribution of microbes in soil, air, food and water. Significance of microbial diversity in nature.	Oct/Nov	5	6	Black Board & Chalk, PPT
2	History and developments of microbiology-Microbiologists and their contributions (Leeuwenhoek, Louis Pasteur, Robert Koch, Joseph Lister, Dmitri Iwanowski, Sergius Winogradsky and M W Beijerinck and Paul Ehrlich).	Nov/Dec	5	5	Black Board & Chalk, PPT
3	Microscopy-Working principle and applications of light, dark field, phase contrast and electron microscopes (SEM and TEM). Microbiological stains (acidic, basic and special) and Principles of staining. Simple, Gram's and differential staining.		5	6	Black Board & Chalk PPT
4	Culture media for Microbes-Natural and synthetic media, Routine media -basal media, enriched media, selective media, indicator media, transport media, and storage media.	Jan	5	6	Black Board & Chalk
5	Sterilization methods -Principle of disinfection, antiseptic, tyndallisation and Pasteurization, Sterilization-Sterilization by dry heat, moist heat, UV light, ionization radiation, filtration. Chemical methods of sterilization-phenolic		5	5	PPT



ACADEMIC YEAR: 2021-2022

COURSE: B.Sc.

Evolution:

FACULTY: DR. BHEEMANAGOUDA N. PATIL

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/Con ducted	Teaching Pdagogy/ Methodology used
2	Plant Propagation and Nursery Management: Tools and materials used in propagation, importance of green house 2. Plant propagation: — Methods of propagation — through seeds, cuttings, roots, corm, bulb, rhizome and leaf. Cuttings, layering, budding grafting. Nursery — definition, importance of nursery management, site selection, planning, budgeting, layout of nursery, preparation of nursery beds, raising of seedlings, transplanting techniques.	Oct-Nov	20	24	Black Board Chalk & PPT

Dr. Bheemanagouda N Patil

4. Green House: Types and significance

Brief account of theories of evolution-Darwinism, Lamrkism and mutation theory.

Assistant Professor
HOD of Entany
Smt. A.S.M. College for Women
Ballari-583103.

Smt. Alium Sumangalamma Memoria College for Women, Ballari-583103



ACADEMIC YEAR: 2021-2022

COURSE: B.Sc.

FACULTY: DR. BHEEMANAGOUDA N. PATIL

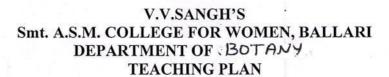
Semester: 6th

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/Con ducted	Teaching Pdagogy/ Methodology used
12	Growth hormones – Auxins, Gibberllins, Cytokinins, ABA and Ethylene – their role in growth and applications (experimental study not necessary).	May/Jun	6	8	Black Board & Chalk, PPT
13	Seed dormancy: General account, factors regulating Physiology of senescence: General account, role of plant growth regulators in senescence Plant Movements: Tropic and nastic movements, Geotropism, Thigmotropism, Phototropism, hydrotropism, Seismonasty, Thigmonasty	July	5	6	Black Board & Chalk, PPT
14	Physiology of flowering: Photoperiodism and Vernalization, devernalization, florigen concept	July	2	4	Black Board & Chalk,
15	Nitrogen metabolism: Sources of nitrogen, nitrogen cycle and its importancee. Mechanism of biological nitrogen fixation	July/Aug	4	5	Black Board & Chalk,

Dr. Bheemanagouda N Patil M.Sc., Ph.D.

Assistant Professor
HOD of Botanyme
5mt. A.S.M. College for Women
Ballari-583103

Principal
Smt. Allum Sumangalamma Memoria
College for Women, Ballari-583103





ACADEMIC YEAR: 2021-2022

COURSE: B.Sc.

FACULTY: Ms. Pallavi P

Semester: 5th

Unit No	Title of the Chapter & Description	Period/ Month	NO. Of hours allotted	Hours taken/ Conduct ed	Teaching Pdagogy/ Methodolog y used
1 to 3	 Introduction to cytology. Study of ultra structure of plant cell and organelles: – cell membrane, endoplasmic Reticulum. Nucleus – structure and function. 	Nov-Dec	8	9	Black Board & Chalk,

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Dr. Bheemanagouda N Patil

Assistant Professor
HOD of Botany
Smt. A.S.M. College for Women
Ballari-583103.

Principal

Smt. Allum Sumangalamma Memerial College for Women, Ballari-583103