RAMAIAH
College of Arts, Science & Commerce

M S Ramaiah College of Arts, Science and Commerce
Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru Central University,
Approved by Government of Karnataka, Approved by AICTE, New Delhi,
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DEPARTMENT OF MANAGEMENT STUDIES - BBA

WORKLOAD FOR THE ACADEMIC YEAR 2022-23 (I, III & V SEMESTERS)

SUBJECTS – SEM WISE

Semester	Subject	No. of Hours	Total Hours
I	Management Principles & Practice	4 X 2 = 08	29
	Fundamentals of Accounting	5 X 2 = 10	
	Marketing Management	4 X 2 = 08	
	Business Organisation – OEC – 1	3 X 1 = 03	
III	Cost Accounting	5 X 2 = 10	33
	Organisational Behaviour	5 X 2 = 10	
	Statistics for Business Decisions	5 X 2 = 10	
	OEC – 3	3 X 1 = 03	
V	Income Tax – I	4 X 2 = 08	68
	Business Regulations	4 X 2 = 08	
	Indirect Taxes	4 X 2 = 08	
	Information Technology for Business – I	4 X 2 = 08	
	Skill Enhancement Course	2 X 2 = 04	
	Finance		
	Advanced Corporate Financial Management	4 X 1 = 04	
	Security Analysis and Portfolio Management	4 X 1 = 04	
	Marketing		
	Consumer Behaviour	4 X 1 = 04	
	Integrated Marketing Communication	4 X 1 = 04	
	Human Resource		
	Industrial Relations and Employee Legislation	4 X 1 = 04	
	Compensation and Performance Management	4 X 1 = 04	
	Data Analytics		
	Business Analytics	4 X 1 = 04	
	Marketing Analytics	4 X 1 = 04	
	TOTAL		**130**

Dr. M Lakshmipathi Naidu
HOD
19/10/22

Principal,
M.S. Ramaiah College of Arts, Science & Commerce
MSRIT Post, MSR Nagar
Bangalore - 560 054

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DEPARTMENT OF MANAGEMENT STUDIES - BBA

WORKLOAD FOR THE ACADEMIC YEAR 2021-22 (I, III & V SEMESTERS)

FACULTY WISE

Sl. No.	Name of the Faculty	No. of Hours
1.	Dr. M.LAKSHMIPATHI NAIDU	14
2.	Ms. SAVITHA BH	16
3.	Ms. EVELYN NISCHITHA	16
4.	Mr. NARAYANA B	16
5.	Ms. DEEPA	16
6.	Mr. DARSHAN B	16
7.	Ms. NAMRATA D	16
	TOTAL	**110**

Total Workload of the Department for the Academic Year (I, III & V Semesters) : **130 Hours**

Less: Workload of the Existing Faculty: 110 Hours

Balance work load of the department: **20 Hours**

Faculty Required:

1. **A - 16 Hours**
2. **B - 04 Hours**

Dr.M.Lakshmipathi Naidu

HOD

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DEPARTMENT OF MANAGEMENT STUDIES - BBA

ACADEMIC YEAR 2021-22 (II, IV & VI SEMESTERS)

SUBJECTS ALLOTMENT

Sem	Sl.No.	Subject	Sec A	Sec B
I	1	Management Principles & Practice	EN	NB
	2	Fundamentals of Accounting	Dr. LN	Dr. LN
	3	Marketing Management	DR	SBH
	4	Business Organisation – OEC – 1	SBH	
III	1	Cost Accounting	ND	ND
	2	Organisational Behaviour	EN	EN
	3	Statistics for Business Decisions	DR	DR
	4	OEC – 3	EN	
V	1	Income Tax – I	SBH	SBH
	2	Business Regulations	DB	DB
	3	Indirect Taxes	ND	ND
	4	Information Technology for Business – I	NB	NB
	5	Skill Enhancement Course	Placement	Placement
	F1	Advanced Corporate Financial Management	NB	
	F2	Security Analysis and Portfolio Management	DR & SBH	
	M1	Consumer Behaviour	Dr. LN	
	M2	Integrated Marketing Communication	DB	
	H1	Industrial Relations and Employee Legislation	DB	
	H2	Compensation and Performance Management		
	D1	Business Analytics		
	D2	Marketing Analytics		

Dr. M Lakshmipathi Naidu

HOD

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DEPARTMENT OF BUSINESS ADMINISTRATION - BBA

WORKLOAD FOR THE ACADEMIC YEAR 2022-23 (II, IV & VI SEMESTERS)

TTHREE SECTIONS – A, B & C

Semester	Subject	No. of Hours	Total Hours
II	Financial Accounting & Reporting Human Resource Management Business Environment / Business Mathematics People Management (OEC)	4 X 3 = 12 4 X 3 = 12 4 X 3 = 12 3 X 1 = 03	39
IV	Management Accounting Business Analytics / Financial Markets and Services Financial Management	4 X 3 = 12 4 X 3 = 12 4 X 3 = 12	36
VI	Income Tax – II Strategic Management International Business Information Technology for Business – II Skill Enhancement Course & Value Education ***Finance*** Risk Management and Derivatives International Finance ***Marketing*** Digital Marketing Supply Chain and Logistics Management ***Human Resource*** International Human Resources Management Organization Development and Change Management	4 X 3 = 12 4 X 3 = 12 4 X 3 = 12 4 X 3 = 12 3 X 3 = 9 4 X 1 = 4 4 X 1 = 4 4 X 1 = 4 4 X 1 = 4 4 X 1 = 4 4 X 1 = 4	81
	TOTAL		**156**

Total Workload = 156 Hours

8/4/23

Dr. M. Lakshmipathi Naidu
Head of the Department
Dept. of Business Administration
M.S.Ramaiah College of Arts,
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Bangalore-560 054.

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DEPARTMENT OF BUSINESS ADMINISTRATION - BBA

WORK LOAD ALLOTMENT (FACULTY) FOR THE ACADEMIC YEAR 2021-22

(II, IV & VI SEMESTERS)

Sl.No.	Name of the Faculty	No. of Hours
1.	Dr. M LAKSHMIPATHI NAIDU	12
2.	Ms. SAVITHA BH	16
3.	Ms. EVELYN NISCHITHA	16
4.	Ms. DEEPA R	16
5.	Ms. NAMRATA DESHPANDE	16
6.	Mr. SANGAPPA POOJARI	16
7.	Ms. YASHODA G	16
	TOTAL	**108**

Total Workload = 156 Hours

Less: Workload of existing staff = 108 Hours

Faculty Requirement: = **48 Hours**

Faculty Required :

A = 16 Hrs

B = 16 Hrs

C = 16 Hrs

Total = 48 Hrs

Dr. M Lakshmipathi Naidu 18/4/23
Head of the Department
Dept. of Business Administration
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Science & Commerce
Bangalore-560 054.

HOD

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Class Room Allocation:

Year	Section	Room No.
1	A	525
	B	526
	C	527
2	A	528
	B	529
	C	530
3	A	531
	B	532
	C	533

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DBT Star College Scheme

Faculty Workload

Academic Year : 2022-2023..... **Date of Commencement of semester:** ...01-09-22.....

Term: Odd Semester

Stream : .....Science.....
(Science / Commerce / Humanities / Management)

Name of the faculty: ..... Mrs. Smrithi. S. P ... **Department :** ...Chemistry.....
Rank :...Assistant Professor.....

Course :			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) Chemistry (IIIrd SEM)	4	1	
b) Chemistry (Ist SEM)	3	1	
c) Open elective (1st SEM Chemistry)	3	1	
d) Chemistry (Vth SEM)	3	1	
c) Chemistry (Vth SEM)	12	-	12
e) Chemistry (IIIrd SEM)	4	-	4
f) Chemistry (MSc)	4	1	
Total Workload:	**21 hrs**		

Signature of Faculty

Signature of HOD
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DBT Star College Scheme

Faculty Workload

Academic Year: 2022-23 **Date of Commencement of semester:** 02/09/2022

Revised: .....
(If applicable)

Term: Odd Semester ✓ Even Semester ☐

Stream: Science
(Science / Commerce / Humanities / Management)

Name of the faculty: Prasanna Kumar S G **Department:** Chemistry/Biochemistry
Rank: Associate Professor...

Course: Chemistry/Biochemistry			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) Chemistry-V (A sec and B sec)	**6**	**2**	**6**
b) Biochemistry -1	**8**		**4**
c) Chemistry -1	**16**		**4**
d) Open elective-I	**3**	**1**	
e) Open elective-III	3	1	
Total Workload: 4hrs Theory +14 hrs. Practicals= 18hrs			

Please Note: If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD, and copied to the Principal office.

Signature of Faculty

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DBT Star College Scheme

Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** Sept. 2022

Revised (If applicable): Yes

Term: Odd Semester [X] Even Semester [ ]
Stream: Science

Name of the faculty: Bharath K. Devendra **Department**: Chemistry/ Biochemistry
Rank: Assistant Professor

Subject	No. of hours per week	Theory	Practical
a) B.Sc. 1st Semester Chemistry	4	1	-
b) B.Sc. 1st Semester Biochemistry	4	1	-
c) B.Sc. 3rd Semester Chemistry	4	1	-
d) B.Sc. 3rd Semester Biochemistry	4	1	-
e) B.Sc. 5th Semester Chemistry	4	2	-
f) B.Sc. 3rd Semester Chemistry (OE)	3	1	-
g) Lab: Biochemistry 1st Semester	8	-	4
h) Lab: Chemistry 1st Semester	8	-	4
k) Lab: Chemistry 5th Semester (A section)	9	-	6
Total Workload: 21 hrs			

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty

Signature of HOD
Head of the Department
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DBT Star College Scheme

Faculty Workload

Academic Year: 2022-2023 Date **of Commencement of semester:** 14/11/2022

Revised: Yes
(If applicable)
Term: Odd Semester
Stream: Science
(Science / Commerce / Humanities / Management)
Name of the faculty: Ramya Kumari B S **Department:** Biochemistry
Rank Assistant Professor

Course:

Subject	No. of hrs per week	Theory	Practical (if applicable)
a) **V SEM BSC GENETICS**	**3HRS**	**THEORY**	
b) V SEM BSC BIOTECHNOLOGY	2HRS	THEORY	
c) III SEM	1HR	THEORY	
d) I SEM OPEN ELECTIVE	1HR	THEORY	
e) **V SEM BSC GENETICS**	12HRS	PRACTICALS	
f) V SEM BSC BIOTECHNOLOGY	6HRS	PRACTICALS	
Total Workload:	**26HRS**		

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty

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Faculty Workload

Academic Year : 2022-2023 **Date of Commencement of semester:** September 2022

Revised : .....
(If applicable)

Term: Odd Semester [•] Even Semester [ ]

Stream : Science
(Science / Commerce / Humanities / Management)

Name of the faculty: Dr. Shashidhar Bharadwaj S. **Department** : Chemistry/Biochemistry
Rank : Asst. Professor

Course :			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) Organic Practical I-C- 305	4		4
b) Organic Practical III-C-307	4		4
c) Organic Reaction Mechanism CH- 301	3	3	
d) Organic Synthesis CH-302	1	1	
e) Basic Biophysical and General Chemistry –CH 102	2	2	
f) Basic Biophysical and General Chemistry - BCH 101	1	1	
g) Systematic Qualitative analysis - paper V	6		6
Total Workload:	**21**	**7**	**14**

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DBT Star College Scheme

Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** 2-12-2022

Revised (If applicable): .....

Term: Odd Semester [X] Even Semester [ ]
Stream: Science

Name of the faculty: Dr. Ashly P. C. **Department:** Chemistry/ Biochemistry
Rank: Assistant Professor

Course : MSc. Organic Chemistry & BSc. Chemistry			
Subject	**No. of h per week**	**Theory**	**Practical (if applicable)**
a) Inorganic chemistry 1 – Ch-101	4	2	
b) Analytical chemistry Ch- 104	4	2	
c) Basic Biophysical and General Chemistry BCHT-101	4	2	
d) Inorganic chemistry C-108	4		4
e) Inorganic chemistry C- 109	4		4
f) Physical chemistry C- 106	4		4
g) Physical chemistry C- 107	4		4
h) Open elective for BSc.	3	1	
Total Workload: 8 h + 16 h = 23h			

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty Signature of HOD Principal

Head of the Department
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Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** 2-12-2022

Revised (If applicable): .....

Term: Odd Semester ☐ Even Semester ☑
Stream: Science

Name of the faculty: Dr. Hareesh Kumar P. **Department**: Chemistry/ Biochemistry
Designation: Assistant Professor

Course: MSc – Chemistry – Organic			
Subject	**No. of hours/week**	**Theory**	**Practical (if applicable)**
Ch-401: Advanced Stereochemistry & Retrosynthetic analysis	4	Yes	---
Ch-402: Chemistry of Natural Product	2	Yes	---
Ch-403: Industrial Organic Chemistry	2	Yes	---
Ch – 405: Industrial Important compounds Preparation	4	---	Yes
Ch-406: Extraction and Isolation	4	---	Yes
Ch- 407: Instrumental & Quantitative analysis	4	----	Yes
Ch-408: Binary Mixture analysis	4	----	ys

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty Signature of HOD Principal

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Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** 2-11-2022

Revised (If applicable): .....

Term: Odd Semester [X] Even Semester [ ]
Stream: Science

Name of the faculty: Tanisha Rathore **Department** : Chemistry/ Biochemistry
Rank :Assistant Professor

Course :			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) B.Sc. Biochemistry V	6		6
b) B.Sc. Biochemistry VI	8	2	6
c) B.Sc. Biochemistry I	1	1	
d) B.Sc. Open Elective I	1	1	
e) B.Sc. Open Elective III	2	2	
f) B.Sc. Chemistry VI	6		6
g) M.Sc. Biochemistry	1	1	
Total Workload:	25 hours		

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Tanisha

Signature of Faculty

Signature of HOD
Head of the Department
CHEMISTRY / BIO-CHEMISTRY
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Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** 2-11-2022

Revised (If applicable): .....

Term: Odd Semester [X] Even Semester [ ]
Stream: Science

Name of the faculty: Dr. K.Vijayakumar Reddy **Department** : Chemistry/ Biochemistry
Rank :Adjunct Professor

Course : M.Sc. Organic Chemistry & BSc. Chemistry			
Subject	**No. of h per week**	**Theory**	**Practical (if applicable)**
a) Physical chemistry 1 – Ch-103	4	4	
b) Organic Spectroscopy Ch-303	4	4	
c) Inorganic chemistry C-108	4		4
d) Inorganic chemistry C- 109	4		4
e) Physical chemistry C- 106	4		4
f) Physical chemistry C- 107	4		4
Total Workload: 8 h + 16 h = 24h			

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty Signature of HOD Principal

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DBT Star College Scheme

Faculty Workload

Academic Year: 2022 - 2023 **Date of Commencement of semester:** 14/11/2022

Revised:
(If applicable)

Term: Odd Semester ■ Even Semester ☐

Stream: Science
(Science / Commerce / Humanities / Management)

Name of the faculty: Dr. Vibha Vinayakumar Bhat **Department:** Chemistry/Biochemistry
Rank: Assistant Professor

Course: BSc + MSc			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) Chemistry Paper V	6	2	
b) Chemistry Practical Paper VI			3
c) Chemistry Paper Practical V	18		15
c) DSC-3: Analytical and Organic Chemistry-III	4	1	
d) Chemistry Open Elective I	3	1	
e) Ch – 101 (MSc Inorganic Chemistry I)	4	2	
Total Workload: 24 hours per week			

Signature of Faculty

Signature of HOD

Head of the Department
CHEMISTRY / BIO-CHEMISTRY
M.S. Ramaiah College of Arts,
Science & Commerce
Bangalore - 560 054

Principal

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RAMAIAH
College of Arts, Science & Commerce

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Ranked 55th in NIRF India Ranking by MHRD, New Delhi
DBT Star College Scheme

Faculty Workload

Academic Year: 2022-23 (Odd Sem) **Date of Commencement of semester:** 2nd September 2022

Term: Odd Semester √ Even Semester ☐

Stream: Science
(Science / Commerce / Humanities / Management)

Name of the faculty: Mrs. Roopashree B N **Department:** Chemistry/Biochemistry
Rank: Assistant Professor

Course : B.Sc. Chemistry & Biochemistry			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) B.Sc. I semester Chemistry	(8hrs)	2hrs	6hrs
b) B.Sc. I semester Bio-Chemistry	(8hrs)	2hrs	6hrs
c) B.Sc. I semester Chemistry Open Elective	(1hr)	1hr	-
d) B.Sc. III semester Chemistry Open Elective	(1hr)	1hr	-
e) B.Sc. V semester Chemistry	6hrs	-	6hrs
Total	**24hrs**	**6hrs**	**18hrs**
Total Workload: **24 hours/ week**			
Additional Work: Star College Scheme Practicals 6 hours/week and Star College summer school projects to be conducted.			

Please Note: If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty   Signature of HOD   Principal

Head of the Department
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DBT Star College Scheme

Faculty Workload

Academic Year : 2022-23 **Date of Commencement of semester:** November,2022

Revised : .....
(If applicable)

Term: Odd Semester ✓ Even Semester ☐

Stream : .....
(Science / Commerce / Humanities / Management)

Name of the faculty: Dr. Krishna Rao Jagarlamudi **Department:** Biochemistry
Rank : Assistant Professor

Course :			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) General Physiology (BCHT-04)	4	4	-
b) Molecular Biology (BCHT-15)	2	2	-
c) Membrane Biochemistry (BCHT-17)	2	2	-
d) Bioanalytical Techniques (BCHP-07)	8	-	8
e) Molecular Biology (BCHP-20)	8	-	8
Total Workload:	**24 Hrs (8T+16P)**		

Please Note : If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Dr. Krishna Rao
Signature of Faculty

Signature of HOD
Head of the Department
CHEMISTRY / BIO-CHEMISTRY
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DBT Star College Scheme

Faculty Workload

Academic Year : 2022 - 2023 **Date of Commencement of semester:** 28/11/2022

Revised : .....

(If applicable)

Term: Odd Semester [✓] Even Semester [ ]

Stream: M Sc – Chemistry – Science
(Science / Commerce / Humanities / Management)

Name of the faculty: Dr. Hareesh Kumar P **Department**: Chemistry
Rank: Assistant Professor

Course: M Sc - Chemistry & Biochemistry			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) **Ch – 102: Organic Chemistry – I**	**2**	**yes**	
b) Ch – 301: Organic Reaction Mechanism	1	yes	
c) Ch – 302: Organic synthesis	3	Yes	
d) Ch – 305: Organic Practical – II (qualitative analysis)	8		Yes
e) Ch – 308: Organic Practical – IV (quantitative analysis)	8		Yes
Total Workload:			

Please Note: If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD and copied to Principal office.

Signature of Faculty

Signature of HOD
Head of the Department
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DBT Star College Scheme

Faculty Workload

Academic Year: 2022-23 **Date of Commencement of semester:** 14/10/2022

Revised: .....
(If applicable)

Term: Odd Semester ✓ Even Semester ☐

Stream: Science
(Science / Commerce / Humanities / Management)

Name of the faculty: **Malini.M. R** **Department:** Chemistry/Biochemistry
Rank:.....

Course: Chemistry/Biochemistry			
Subject	**No. of hrs per week**	**Theory**	**Practical (if applicable)**
a) Chemistry-VI (A sec and B sec)	**4+9**	**4**	**9**
b) Biochemistry -V	**1**	**1**	**Nil**
c) Open elective-I	**1**	**1**	**Nil**
d) Chemistry-V	9	Nil	9
e) Biochemistry-III	1	1	Nil
Total Workload: 7hrs Theory +18 hrs Practicals= 25hrs			

Please Note: If faculty members work allotment changes significantly, a revised workload must be duly completed, signed by HOD, and copied to the Principal office.

Signature of Faculty Signature of HOD Principal

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DBT Star College Scheme

Workload distribution

Semester : Even

Academic year:2022-23

Name of the faculty: Mrs. Roopa H S

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
01	2nd B.Com B section	67	Advanced Financial Accounting	4hrs
02	2nd B.Com C section	67	Advanced Financial Accounting	4hrs
03	4th B.Com A section	67	Advanced Corporate Accounting	4Hrs
04	4th B.Com B section	67	Advanced Corporate Accounting	4Hr
			Total	16 hrs

Sign of the faculty

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Dean/ HOD

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DBT Star College Scheme

Workload distribution

Semester :even *Academic year:2022-23*

Name of the faculty: **Mr.Shankar Guddad**
Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
01	2nd B.Com (Band C section)	67	Corporate administration	4Hrs
02	6th B.Com (A section)	67	Accounting for government and local bodies	4Hrs
03	6th B.Com (B section)	67	Accounting for government and local bodies	4Hrs
04	6th B.Com (B section)	67	Income tax II	4Hrs
			Total	16hrs

Sign of the faculty

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OF COMMERCE

Dean/ HOD

Principal

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Bangalore - 560 054

Workload distribution

Semester : even

Academic year:2022-23

Name of the faculty: **Ms. Srivaideshwari S**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	4th B.COM (A section)	67	Costing methods & Techniques	4hrs
2	6th B.COM (C section)	67	Income Tax II	4hrs
3	6th B.Com (A section)	67	International Financial Reporting Standards	4hrs
4	6th B.COM (B section)	67	International Financial Reporting Standards	4 hrs
			Total	16hrs

Sign of the faculty

Dean/ HOD

Principal

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DBT Star College Scheme

Workload distribution

Semester : even *Academic year:2022-23*

Name of the faculty: **Ms. SunithaN Gurukar**
Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	4th B.COM (B section)	67	Costing methods & Techniques	4hrs
2	6th B.COM (A section)	67	Management Accounting	4hrs
3	6th B.Com (B section)	67	Management Accounting	4hrs
4	6th B.COM (C section)	67	International Financial Reporting Standards	4 hrs
			Total	16hrs

Sign of the faculty

HEAD OF THE DEPARTMENT
Dean/ HOD

Valsala G
Principal

Principal,
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Workload distribution

Academic year:2022-23

Semester :even

Name of the faculty: **Ms.Sindhu. K**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	6th B.Com A section	67	International Finance	8hrs
2	6th B.Com B section	67	International Finance	4hrs
3	6th B.Com C section	67	Management Accounting	4hrs
4	4th B.Com A section	67	Business Regulatory Framework	4hrs
			Total	16hrs

HEAD OF THE DEPARTMENT

Sign of the faculty

Dean/ HOD

Principal

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DBT Star College Scheme

Workload distribution

Semester :even *Academic year:2022-23*

Name of the faculty: **Ms.Mamatha CN**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	6th B.Com (B section)	67	Security Analysis & Portfolio Management	4hrs
2	6th B.Com (C section)	67	International Finance	4hrs
3	4th B.Com (C section)	67	Advanced Corporate Accounting	4hrs
4	2nd B.Com (A section)	67	Advanced financial Accounting	4hrs
			Total	16hrs

Sign of the faculty

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DBT Star College Scheme

Workload distribution

Semester :even *Academic year:2022-23*

Name of the faculty: **Mrs. Sindhu M**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	2nd B.Com (A section)	67	Law & Practice of Banking	4hrs
2	2nd B.Com (B section)	67	Law & Practice of Banking	4hrs
3	2nd B.Com (A section)	67	Corporate Administration	4hrs
4	4th B.Com (C section)	67	Costing Methods & Techniques	4hrs
5	6th B.Com (B section)	67	Value education	2 hrs
			Total	18hrs

Sign of the faculty

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Dean/ HOD

Principal

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Bangalore - 560 054

Workload distribution

Semester :even *Academic year:2022-23*

Name of the faculty: **Mrs. Roopa N**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	2nd B.Com (C section)	67	Law & Practice of Banking	4hrs
2	2nd BCA (OEC)	67	Innovation Management	4hrs
3	6th B.Com (A section)	67	Income Tax II	4hrs
4	6th B.Com (A section)	67	Accounting for Government & Local Bodies	4hrs
5	6th B.Com (C section)	67	Value education	2 hrs
			Total	18hrs

Sign of the faculty

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Bangalore - 560 054

Workload distribution

Semester :even *Academic year:2022-23*

Name of the faculty: **Ms. Priyanka M**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	4th B.Com (B section)	67	Business Regulatory Framework	4hrs
2	4th B.Com (C section)	67	Business Regulatory Framework	4hrs
3	6th B.Com (A section)	67	Security Analysis & Portfolio Management	4hrs
4	6th B.Com (C section)	67	Security Analysis & Portfolio Management	4hrs
5	6th B.Com (A section)	67	Value education	2hrs
			Total	18hrs

Sign of the faculty

Dean/ HOD

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Bangalore - 560 054

Workload distribution

Semester : Odd

Academic year:2022-23

Name of the faculty: Prof. B S Jayarama

Department: Commerce

Sl.No.	Class	Student Strength	Subject	Hr/ week
1	M.Com (1st semester)	28	Monetary system	4Hrs
2	.Com (1nd semester)	28	Intellectual property Rights	4Hrs
3	5th B.COM (A and B section)	196	Methods and Techniques of Cost Accounting	8Hrs
			Total	16hrs

Sign of the faculty **Dean/ HOD** **Principal**

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Workload distribution

Semester : Odd

Academic year:2022-23

Name of the faculty: Mrs. Roopa H S

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
01	3rd B.Com (B section)	98	Corporate Accounting	4hrs
02	1st B.Com (B section)	98	Principles of Marketing	4hrs
03	1st B.Com (A &B section)	196	Financial Accounting	8Hrs
			Total	16 hrs

Sign of the faculty

Dean/ HOD

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Principal

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Workload distribution

Semester :Odd *Academic year:2022-23*

Name of the faculty: **Mr.Shankar Guddad**
Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
01	M.Com (2nd Year)	28	Risk Management and Derivatives	4Hrs
02	B.Com(Aand B section)	196	Advanced Financial Management	8Hrs
03	M.Com (1st semester)	30	Global Business Environment	4Hrs
04	.Com (1nd semester)	28	Trade logistics and supply chain management	4Hrs
			Total	20hrs

Sign of the faculty

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Workload distribution

Semester : Odd *Academic year:2022-23*

Name of the faculty: **Ms. Kruthi V P**
Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	5th B.COM (A and B section)	196	Financial Services	8hrs
2	3rd B.Com (B section)	98	Business Statistics	4hrs
3	1ST b.Com (A section)	98	Principles of Marketing	4hrs
			Total	16hrs

Sign of the faculty **Dean/ HOD** **Principal**

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Principal,
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MSRIT Post, MSR Nagar
Bangalore - 560 054

Workload distribution

Semester : Odd

Academic year:2022-23

Name of the faculty: **Ms. Srivaideshwari S**
Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	3rd B.Com (A and B section)	196	Cost Accounting	8hrs
2	3rd B.Com (A section)	98	Corporate Accounting	4hrs
3	1stB.Com(Asection)	98	Management Principles and Applications	4hrs
			Total	16hrs

Sign of the faculty

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Dean/ HOD

Valsale.G

Principal

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MSRIT Post, MSR Nagar
Bangalore - 560 054

Workload distribution

Semester :Odd *Academic year:2022-23*

Name of the faculty: **Ms.Sindhu. K**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	5th B.COM (A and B section)	196	Auditing and Corporate Governance	8hrs
2	3rd B.Com (A section)	96	Business Statistics	4hrs
3	1st B.Com(B section)	98	Management Principles and Applications	4hrs
4	5th B.COM (A section)	98	Practical's on skill Development	2 hrs
			Total	18hrs

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College of Arts, Science & Commerce

ಎಮ್ ಎಸ್ ರಾಮಯ್ಯ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಕಾಲೇಜು
M S Ramaiah College of Arts, Science and Commerce
Re-accredited 'A' by NAAC, Permanently Affiliated to Bangaluru City University
Approved by Government of Karnataka, Approved by AICTE, New Delhi.
Recognized by UGC under 2f & 12B of UGC act 1956
nirf (National Institutional Ranking Framework, Ministry of Education, Govt of India)
Ranked 55th in NIRF India Ranking by MHRD, New Delhi
DBT Star College Scheme

Workload distribution

Semester : Odd *Academic year:2022-23*

Name of the faculty: **Ms. Sunitha N Gurukar**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	5th B.COM (A and B section)	196	Advanced Accounting	8hrs
2	5th B.Com (A section)	98	Income tax-1	4hrs
3	BCA	27	Accounting for Everyone	4hrs
4	5th B.COM (B section)	98	Practical's on skill Development	2 hrs
			Total	18hrs

Sign of the faculty

HEAD OF THE DEPARTMENT
M.S. RAMAIAH COLLEGE OF ARTS, SCIENCE & COMMERCE
BANGALORE-560054

Dean/ HOD

Principal

Principal,
M.S. Ramaiah College of Arts, Science & Commerce
MSRIT Post, MSR Nagar
Bangalore - 560 054

Workload distribution

Semester : Odd *Academic year:2022-23*

Name of the faculty: **Ms.Mamatha CN**

Department: Commerce

Sl. No.	Class	Student Strength	Subject	Hr/ week
1	1st M.Com	21	Principles of business decisions	4hrs
2	1st M.Com	21	Business Models for start ups	4hrs
3	2nd BCA,Bsc,BA	58	Advertising skills	3hrs
4	3rd BBA(A and B section)		Cultural diversity and Society	4hrs
5	3rd BBA		Consumer Behavior	4hrs
			Total	19hrs

M.S. C.N

Sign of the faculty

HEAD OF THE DEPARTMENT
COMMERCE
M.S. RAMAIAH COLLEGE
OF ARTS, SCIENCE & COMMERCE
BANGALORE-560054

Dean/ HOD

Vatsala.G

Principal

Principal,
M.S. Ramaiah College of Arts, Science & Commerce
MSRIT Post, MSR Nagar
Bangalore - 560 054

Department of Humanities

Work load for Even Semester (April - November) for the year 2022 - 2023

Department Workload

Subject: Optional English

Sl No	Class	Student Strength	Paper	Hr/ week
1	I Sem BA		DSC 1 – Introduction to Literature	3
2	I Sem BA		DSC 2 – Indian Writing in English I	3
3	I Sem Open Elective		Critical Thinking and Creative Writing -I	3
4	III Sem BA	44	DSC 5	3
5	III Sem BA	44	DSC 6	3
6	III Sem BA		Critical Thinking and Creative Writing - III	3
7	V Sem BA	65	American Literature	5
8	V Sem BA	30	European Literature	5
			Total	28 Hrs

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Department of Humanities

Work load for Even Semester (April - August) for the year 2022 - 2023

Department Workload

Subject: Psychology

Sl. No	Class	Student Strength	Paper	Hr/ week
1	II Sem BA	20	DSC 1 – Foundations of Behavior	4
2	II Sem Open Elective		Youth Gender and Identity	3
3	IV Sem BA	24	Developmental Psychology	4
4	III Sem Open Elective		Psychology at Work	3
4	VI Sem BA	37	Organizational Psychology	3
5	VI Sem BA	37	Health Psychology	3
6	II Sem BA	20	Practicals Batches 1 and 2	6
7	IV Sem BA	24	Practicals Batches 1 and 2	6
8	VI Sem BA	37	Practicals Batches 1 and Batch 2 (Organizational Psychology)	6
9	VI Sem BA	37	Practicals Batches 1 and Batch 2 (Health Psychology)	6
			Total	44 Hrs

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Department of Humanities

Work load for Even Semester (April - August) for the year 2022 - 2023

Department Workload

Subject: Political Science

Sl No	Class	Student Strength	Paper	Hr/ week
1	II Sem BA	16	DSC 3 – Western Political Thought	4
2	II Sem BA	16	DSC 4 – Indian National Movement and Constitutional Development	4
3	II Sem Open Elective		Indian Polity: Issues and Concerns	3
4	IV Sem BA	22	DSC 7 – Ancient Indian Political Ideas and Institutions	4
5	IV Sem BA	22	DSC 8 – Modern Political Analysis	4
6	IV Sem Open Elective		Political Journalism	3
7	VI Sem BA	26	Advanced Public Administration	5
8	VI Sem BA	26	International Organisation and India's Foreign Policy	5
			Total	32 Hrs

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Department of Humanities

Work load for Even Semester (April - August) for the year 2022 - 2023

Department Workload

Subject: Journalism

Sl. No	Class	Student Strength	Paper	Hrs/ week
1	II Sem BA	24	Computer Applications for Media	4
2	II Sem BA	24	Practicals – Batch 1 and 2	4
3	II Sem OEC		Open Elective – Photo Journalism	3
4	IV Sem BA	39	News Processing and Editing	4
5	IV Sem BA	39	Practicals Batches 1 and 2	8
6	IV Sem OEC		Translation for media	3
7	VI Sem BA	63	Advertising and Public Relations	4
8	VI Sem BA	63	Introduction to Digital Media	4
9	VI Sem BA	63	Practicals – Batches 1, 2, 3 and 4. (Advertising and Public Relations)	6
10	VI Sem BA	63	Practicals – Batches 1, 2, 3 and 4. (Introduction to Digital Media)	6
			Total	46 Hrs

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College of Arts, Science & Commerce

Department of Electronics

Workload for Odd semester-2022-23

Total workload:

SL.No.	Class	Paper	Hrs./week
1.	I Sem	Paper-I: Electronic Devices And Circuit	05
2.	I Sem	OE: Digital Fundamental	03
3.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	05
4.	III Sem	OE: Robotics	04
5.	V Sem	Paper-V: Microprocessor and Electronics Instrumentation	04
6.	V Sem	Paper-VI: Communication I	03
7.	I Sem	Electronic Devices And Circuit practical	08
8.	III Sem	Digital Design using Verilog and 'C' Programming Lab	08
9.	V Sem	Microprocessor Lab	12
10.	V Sem	Communication-I Lab	12
		Total	**64**

Total Strength: 115

Class	I Sem(Core)	I Sem (Open Elective)	III Sem (Core)	III Sem(Open Elective)	V Sem
B.Sc Electronics			22		38

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of
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M.S.R. Nagar, Bangalore-560 054.

Signature of Principal:

Vatsala 09/09/23

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M.S. Ramaiah College of Arts, Science & Commerce
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Department of Electronics

Workload for Odd semester-2022-23

1. Name of the Faculty: **Dr. Naveen Kumar R**
   Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	V Sem	Paper-V: Microprocessor and Electronics Instrumentation	04
2.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	02
3.	III Sem	Digital Design using Verilog and 'C' Programming Lab	04
4.	V Sem	Microprocessor Lab	06
5.	V Sem	Communication-I Lab	06
		Total	**22**

Signature of Faculties

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of Arts, Science & Commerce
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Signature of Principal:

09/09/23

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M.S. Ramaiah College of Arts, Science & Commerce
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RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for Odd semester-2022-23

2. Name of the Faculty: **Mrs. Asharani R**
   Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	I Sem	Paper-I: Electronic Devices And Circuit	02
2.	I Sem	OE: Digital Fundamentals	03
3.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	03
4.	I Sem	Electronic Devices And Circuit Lab	04
5.	III Sem	Digital Design using Verilog and 'C' Programming Lab	04
6.	V Sem	Microprocessor Lab	06
		Total	**22**

Signature of Faculties

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of
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Signature of Principal:

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College of Arts, Science & Commerce

Department of Electronics

Workload for the semester -2022-23

3. Name of the Faculty: **Mrs. Rithu R**
   Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	V Sem	Paper-VI: Communication I	04
2.	III Sem	Paper-I: Electronic Devices And Circuit	03
3.	III Sem	OE: Robotics	04
4.	I Sem	Electronic Devices And Circuit Lab	04
5.	V Sem	Communication-I Lab	06
		Total	**21**

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Department Of Electronics

Workload for the semester May-2023

Total workload:

SL.No.	Class	Student strength	Paper	Hrs./week
1.	II Sem	20	Paper-II: Analog & Digital Electronics	05
2.	II Sem	-	Open Elective-Digital Systems	03
3.	IV Sem	21	Paper-IV: Electronic Communication-I	04
4.	IV Sem	-	ELE-OE 4.2: Electronics For Everyone	03
5.	VI Sem	38	Paper-VII: Communication II	03
6.	VI Sem	38	Paper-VIII: Microcontrollers	04
7.	II Sem	20	Analog & Digital Electronics Lab	08
8.	IV Sem	21	Electronic Communication Lab-I	08
9.	VISem	38	Communication & Microcontroller lab	12
10.	VI Sem	38	Project Lab	12
11.	II,IV,VI	79	DBT star college Activities	08
			Total	**70**

*CC= Coaching classes

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RAMAIAH
College of Arts, Science & Commerce

Department Of Electronics

Workload for the semester May-2023

1. Name of the Faculty: **Dr. Naveen Kumar R**
   Department: **Electronics**

SL.No.	Class	Student strength	Paper	Hrs./week
1.	VI Sem	38	Paper-VI: Microcontroller	03
2.	VI Sem	38	Communication & Microcontroller Lab	06
3.	VI Sem	38	Project Lab	06
4.	IV Sem	21	Paper-IV: Electronic Communication-I LAB	04
			Total	**19**

2. Name: **Flying Officer Dr Naveen Kumar R**
   Department: **NCC Air Wing**

SL.No.	Class	Student strength	Paper	Hrs./week
1.	1st Yr	21	Common subject-1	2
			Special subject-1(Aerodynamics & Aircrafts)	2
			Drill	2
2.	2nd Yr	14	Common subject-2	2
			Special subject-2(Aero engines & Simulators)	2
			Special Drill	2
3.	3rd Yr	15	Common subject-3	2
			Special subject-3(Aeromodelling)	2
			Weapon drill	2
			Total	**18**

Total Workload for Faculty: 37 Hours

Signature of Faculty

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Department of Electronics

Workload for the semester May-2023

3. Name of the Faculty: **Mrs. Rithu R**
   Department: **Electronics**

SL. No.	Class	Student strength	Paper	Hrs./week
1.	VI Sem	38	Paper-VII: Communication II	03
2.	IV Sem	21	Paper-IV: Electronic Communication-I	04
3.	IV Sem	22	Paper-IV: Electronic Communication-I LAB	04
4.	VI Sem	37	Communication & Microcontroller Lab	06
5.	II Sem	22	Analog & Digital Electronics Lab	04
6.	IV & VI Sem	38	DBT workload	03
			Total	**24**

Signature of Faculty

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Department Of Electronics

Workload for the semester May-2023

4. Name of the Faculty: **Mrs.Asharani R**
   Department: **Electronics**

SL. No.	Class	Student strength	Paper	Hrs./week
1.	II Sem	20	Paper-II: Analog & Digital Electronics	04
2.	II Sem	--	Open Elective-Digital Systems	03
3.	II Sem	22	Analog & Digital Electronics Lab	04
4.	IV Sem	-	ELE-OE 4.2: Electronics For Everyone	03
5.	VI Sem	37	Project Lab	06
6.	II Sem& IV SEM	41	DBT workload	04
			Total	**24**

Signature of Faculty

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Bangalore - 560 054

RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for Odd semester-2022-23

Total workload:

SL.No.	Class	Paper	Hrs./week
1.	I Sem	Paper-I: Electronic Devices And Circuit	05
2.	I Sem	OE: Digital Fundamental	03
3.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	05
4.	III Sem	OE: Robotics	04
5.	V Sem	Paper-V: Microprocessor and Electronics Instrumentation	04
6.	V Sem	Paper-VI: Communication I	03
7.	I Sem	Electronic Devices And Circuit practical	08
8.	III Sem	Digital Design using Verilog and 'C' Programming Lab	08
9.	V Sem	Microprocessor Lab	12
10.	V Sem	Communication-I Lab	12
		Total	**64**

Total Strength: 115

Class	I Sem(Core)	I Sem (Open Elective)	III Sem (Core)	III Sem(Open Elective)	V Sem
B.Sc Electronics			22		38

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of
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Vasala 09/09/23
Signature of Principal:

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M.S. Ramaiah College of Arts, Science & Commerce
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Bangalore - 560 054

RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for Odd semester-2022-23

1. Name of the Faculty: **Dr. Naveen Kumar R**
   Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	V Sem	Paper-V: Microprocessor and Electronics Instrumentation	04
2.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	02
3.	III Sem	Digital Design using Verilog and 'C' Programming Lab	04
4.	V Sem	Microprocessor Lab	06
5.	V Sem	Communication-I Lab	06
		Total	**22**

Signature of Faculties

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of Arts, Science & Commerce
M.S.R. Nagar, Bangalore-560 054.

Signature of Principal:

09/09/23

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Bangalore - 560 054

RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for Odd semester-2022-23

2. Name of the Faculty: **Mrs. Asharani R**
Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	I Sem	Paper-I: Electronic Devices And Circuit	02
2.	I Sem	OE: Digital Fundamentals	03
3.	III Sem	Paper-III: Digital Design using Verilog and 'C' Programming	03
4.	I Sem	Electronic Devices And Circuit Lab	04
5.	III Sem	Digital Design using Verilog and 'C' Programming Lab	04
6.	V Sem	Microprocessor Lab	06
		Total	**22**

Signature of Faculties

Signature of HOD:

Department of Electronics
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Signature of Principal:

RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for the semester -2022-23

3. Name of the Faculty: **Mrs. Rithu R**
   Department: **Electronics**

SL.No.	Class	Paper	Hrs./week
1.	V Sem	Paper-VI: Communication I	04
2.	III Sem	Paper-I: Electronic Devices And Circuit	03
3.	III Sem	OE: Robotics	04
4.	I Sem	Electronic Devices And Circuit Lab	04
5.	V Sem	Communication-I Lab	06
		Total	**21**

Signature of Faculties

Signature of HOD:

Department of Electronics
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College of Arts, Science & Commerce

Department Of Electronics

Workload for the semester May-2023

Total workload:

SL.No.	Class	Student strength	Paper	Hrs./week
1.	II Sem	20	Paper-II: Analog & Digital Electronics	05
2.	II Sem	-	Open Elective-Digital Systems	03
3.	IV Sem	21	Paper-IV: Electronic Communication-I	04
4.	IV Sem	-	ELE-OE 4.2: Electronics For Everyone	03
5.	VI Sem	38	Paper-VII: Communication II	03
6.	VI Sem	38	Paper-VIII: Microcontrollers	04
7.	II Sem	20	Analog & Digital Electronics Lab	08
8.	IV Sem	21	Electronic Communication Lab-I	08
9.	VISem	38	Communication & Microcontroller lab	12
10.	VI Sem	38	Project Lab	12
11.	II,IV,VI	79	DBT star college Activities	08
			Total	**70**

*CC= Coaching classes

Signature of HOD:

Department of Electronics
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Signature of Principal:

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College of Arts, Science & Commerce

Department Of Electronics

Workload for the semester May-2023

1. Name of the Faculty: **Dr. Naveen Kumar R**
   Department: **Electronics**

SL.No.	Class	Student strength	Paper	Hrs./week
1.	VI Sem	38	Paper-VI: Microcontroller	03
2.	VI Sem	38	Communication & Microcontroller Lab	06
3.	VI Sem	38	Project Lab	06
4.	IV Sem	21	Paper-IV: Electronic Communication-I LAB	04
			Total	**19**

2. Name: **Flying Officer Dr Naveen Kumar R**
   Department: **NCC Air Wing**

SL.No.	Class	Student strength	Paper	Hrs./week
1.	1st Yr	21	Common subject-1	2
			Special subject-1(Aerodynamics & Aircrafts)	2
			Drill	2
2.	2nd Yr	14	Common subject-2	2
			Special subject-2(Aero engines & Simulators)	2
			Special Drill	2
3.	3rd Yr	15	Common subject-3	2
			Special subject-3(Aeromodelling)	2
			Weapon drill	2
			Total	**18**

Total Workload for Faculty: 37 Hours

Signature of Faculty

Signature of HOD:

Department of Electronics
M. S. Ramaiah College of Arts, Science & Commerce
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Signature of Principal:

09/09/23

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RAMAIAH
College of Arts, Science & Commerce

Department of Electronics

Workload for the semester May-2023

3. Name of the Faculty: **Mrs. Rithu R**
Department: **Electronics**

SL. No.	Class	Student strength	Paper	Hrs./week
1.	VI Sem	38	Paper-VII: Communication II	03
2.	IV Sem	21	Paper-IV: Electronic Communication-I	04
3.	IV Sem	22	Paper-IV: Electronic Communication-I LAB	04
4.	VI Sem	37	Communication & Microcontroller Lab	06
5.	II Sem	22	Analog & Digital Electronics Lab	04
6.	IV & VI Sem	38	DBT workload	03
			Total	**24**

Signature of Faculty

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Department Of Electronics

Workload for the semester May-2023

4. Name of the Faculty: **Mrs.Asharani R**
   Department: **Electronics**

SL. No.	Class	Student strength	Paper	Hrs./week
1.	II Sem	20	Paper-II: Analog & Digital Electronics	04
2.	II Sem	--	Open Elective-Digital Systems	03
3.	II Sem	22	Analog & Digital Electronics Lab	04
4.	IV Sem	-	ELE-OE 4.2: Electronics For Everyone	03
5.	VI Sem	37	Project Lab	06
6.	II Sem& IV SEM	41	DBT workload	04
			Total	**24**

Signature of Faculty

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Signature of Principal:

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Workload distrubtion

Semester : Even *Academic year: 2022-2023*

Name of the faculty: Dr. Shobha L
Department: Hindi

Sl No	Class	Student Strength	Subject	Hr/ week
1	II B.Sc	64	Kavya Smriti , anuvad ke prakar	4
2	IV B.Com	50	Jadu ka kalim, Computer Application	2
3	II BBA	45	Gadya Shika, Prayojan munak Hindi	4
4	IV BCA	22	Madhavi Antarjal Chitra Lekhan	2
5	II B.Com	40	Katha sankalp Media Lekhan Sravya Madhyam, Samachar Lekhan- Radio, Natak Druya Madhyam – Chlan chitra television Vedio.	1
			Total	12

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Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Vijayalakshmi D
Department: Kannada

Sl No	Class	Student Strength	Subject	Hr/ week
1	II BCA	54	Ganaka Sourabha	4
2	II BBA	31	Nirvahana Sourabha	4
3	IV B.Sc	32	Vijnana Sourabha	3
4	II BA	13	Kala Sourabha	3
5	II B.Com	98	Vanijya Sourabha	1
			Total	15

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Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Prabhavathi J
Department: Kannada

Sl No	Class	Student Strength	Subject	Hr/ week
1	IV B.Com	85	Vanijya Sourabha	4
2	II B.Sc (BT)	26	Vijnana Sourabha	3
3	IV BA	18	Kala Sourabha	4
4	IV BBA	35	Nirvahana Sourabha	3
5	IV BCA	25	Ganaka Sourabha	1
			Total	15

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Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Raju N
Department: Kannada

Sl No	Class	Student Strength	Subject	Hr/ week
1	IV B.Sc BT	64	Vijnana Sourabha	4
2	II B.Sc E&G	21	Vijnana Sourabha	3
3	II B.Com	98	Vanijya Sourabha	2
4	IV BCA	25	Ganaka Sourabha	3
5	II BA	12	Kala Sourabha	1
6.	IV BBA	33	Nirvahana Sourabha	1
			Total	14

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Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru Central University,
Approved by Government of Karnataka, Approved by AICTE, New Delhi,
Recognized by UGC under 2F & 12B of UGC act 1956

Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Dr. Lakshmi V
Department: Hindi

Sl No	Class	Student Strength	Subject	Hr/ week
1	IIBCA	30	Kahani Prathyoosh, Prayojan moolak Hindi, , Rozgar parak Hindi, Anuvaad Kala	4
2	II BA	10	Daak Bangla, Prayojan moolak Hindi, Sankshepan	4
3	IV BBA	45	Agnishikha, Patra lekhan aur Aalekhan, swaroop, paribhasha.	4
4	IV B.Sc	67	Daud, Bhasha Ke vividh Roop, Patra, Radio, Doordarshan ,Cinema	4
			Total	16

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Workload distrubtion

Semester : Even *Academic year: 2022-2023*

Name of the faculty: Dr. Rohini Bai S
Department: Hindi

Sl No	Class	Student Strength	Subject	Hr/ week
1	IV BA	20	Shambook, Patralekhan aur Alekhan	4
2	IV B.Com	45	Jadu ka kalim, Computer Application	2
3	IV BCA	15	Madhavi Antarjal Chitra Lekhan	3
4	II B.Com	40	Katha sankalp Media Lekhan Sravya Madhyam, Samachar Lekhan- Radio, Natak Druya Madhyam – Chlan chitra television Vedio.	4
			Total	12

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Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Dr. Padmaja M R
Department: Sanskrit

Sl No	Class	Student Strength	Subject	Hr/ week
1	IV B.Com	26	Drama Literature and Dramatists	1
2	IV BBA	46	Mudrarakshasam 1st Act	3
3	IV BCA	15	Drama Literature and Dramatists	2
4	IV B.Sc	40	Madhyama Vyayoga, Drama Literature and Dramatists	4
5	II B.Sc	37	Vigraha of Hitopadesha, Introduction to prose literature and Didactic fables in Sanskrit, Grammar	4
6	II BCA	35	Suhrudbheda of Hitopadesha, Introduction to prose literature and Didactic fables in Sanskrit	2
7	II BBA	24	Mitrasamprapti of Panchatantra, Introduction to prose literature and Didactic fables in Sanskrit, Grammar	4
			Total	20

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Workload distrubtion

Semester : Even *Academic year:2022-2023*

Name of the faculty: Mayur Dattatri
Department: Sanskrit

Sl No	Class	Student Strength	Subject	Hr/ week
1	IV BBA	46	Drama Literature and Dramatists	1
2	IV BCA	15	Abhijnana Shakuntalam 4th & 5th Act	2
3	IV B.Com	26	Ekachakram	3
4	IV BA	06	Bhukailasa 3rd & 4th Act	4
5	II BCA	35	Grammar – Swara Sandhi, Upapada Vibhakti, Translation & Comprehension	2
6	II B.Com	21	Kakolukeeyam of Panchatantra, Grammar – Swara Sandhi, Upapada Vibhakti, Translation & Comprehension	4
7	II BA	02	Simhasana Dwatrimshika, Grammar – Swara Sandhi, Upapada Vibhakti, Translation & Comprehension	4
			Total	20

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Department of Mathematics

Existing Workload for the academic year 2022-23 (Even Sem)

Sl No	Course	Paper	Strength	Theory Class Hours per week	Practical Class Hours per week	Coaching Class Hours per week	K.Ravindranath			Haritha.A			Amthul Muqeeth		
							The	Pra	Coach	The	Pra	Coach	The	Pra	Coach
01	B.Sc 2nd Sem	DSCIPLINE CORE Paper-2	20	04	08	01	01	04	01	01	---	--	02	04	--
		OPEN Elective	20	03	------	--	01	---	----	01	-----	----	01	---	--
02	B.Sc 4th Sem	DSCIPLINE CORE Paper-4	17	04	08	01	--	--	--	02	04	01	02	04	--
03	B.Sc 6th Sem	Paper -7	37	03	12	01	01	06	--	--	03	--	02	03	--
		Paper -8	37	03	12		01	03	-	02	06	01	--	03	-
04	B.Com 2nd Sem	Optional Paper	52	04	---	----	02	--	----	--	---	----	02	--	---
05	B.Com & BBA 4th Sem	OPEN ELECTIVE	44	03			02						01		
		Total Work Load		20	40	03	08	13	01	06	13	02	10	14	--
Work Load Per Week							22			21			24		

Total hours exists : 63 Hrs / week

K.Ravindranath : 20 Hrs. /Week.
Haritha.A : 21 Hrs. /Week.
Amthul Muqeeth **: 22 Hrs. /Week**

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HOD

PRINCIPAL

Department of Mathematics

Existing Workload for the academic year 2022-23 (Odd Sem)

Sl No	Course	Paper	Strength	Theory Class Hours per week	Practical Class Hours per week	Coaching Class Hours per week	K.Ravindranath			Haritha.A			Sushma.K		
							The	Pra	Coach	The	Pra	Coach	The	Pra	Coach
01	B.Sc 1st Sem	DSCIPLINE CORE Paper-1	20	04	08	01	01	04	---	01	---	01	02	04	--
		OPEN Elective -1 (for Maths background)	20	03	-----	---	01	---	----	01	-----	----	01	---	---
		OPEN Elective (for Non-Maths background)	---	---	----	---	---	----	---	---	---	---	---	---	----
02	B.Sc 3rd Sem	DSCIPLINE CORE Paper-3	17	04	08	01	---	--	---	02	04	01	02	04	--
		OPEN Elective -3 (for Maths background)	23	03	------	---	01	---	----	01	-----	----	01	---	---
		OPEN Elective (for Non-Maths background)	---	---	----	---	---	----	---	---	---	---	---	---	----
03	B.Sc 5th Sem	Paper -5	39	03	12	01	01	06	01	--	03	--	02	03	-
		Paper -6	39	03	12	01	01	03	-	02	06	01	---	03	-
04	BCA 1st Sem	Paper-1	180	03+03	---	---	04	--	--	---	-	-	02	-	-
05	M.SC 1st Sem	Paper-1	20	04	---	---	02	---	---	02	---	---	---	--	---
		Total Work Load		30	40	04	11	13	01	09	13	02	10	14	---
		Work Load Per Week					25			25			24		

Total hours exists : 74 Hrs / week

K.Ravindranath : 25 Hrs. /Week.
Haritha.A : 25 Hrs. /Week.
Sushma.K **: 24 Hrs. /Week**

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DEPARTMENT OF MICROBIOLOGY

Work load
For the odd semester from June 2022-23

Name of the faculty: **Dr. Pushpa.H**
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	I sem MSc	30	MBH 102: Eukaryotic Microbiology	4
2	I sem MSc	30	MBH 106: Bacteriology, virology and Eukaryotic Microbiology	4
3	III sem MSc	34	MNP 305: Medical Microbiology and Immunology	8
Total				**18**

Work load

For the semester July to December for the year 2022-23

Name of the faculty: Dr.Prasanna Srinivas.R Department: Microbiology

Sl No	Class	Student Strength	Paper	Hr/ week
1	B.Sc III Sem	Section-C= 53	MBP-301-MICROBIAL PHYSIOLOGY & GENETICS-(THEORY)	2 hr/wk
2	B.Sc III Sem	Section-A= 80	MBP-301-MICROBIAL PHYSIOLOGY & GENETICS-(THEORY)	2 hr/wk
3	B.Sc III Sem	Section-B= 67	MBP-301-MICROBIAL PHYSIOLOGY & GENETICS-(THEORY)	2 hr/wk
4	B.Sc III Sem	Section-A= 79 Batches A2,B1,G2	MBP-302-MICROBIAL PHYSIOLOGY & GENETICS-(PRACTICALS)	3 hr/wk--3 BATCHES =9 hrs/wk
5	B.Sc V Sem	BATCHES-A2,B2--- 60 students	MBP-502-AGRICULTURAL MB & ENVT MB -(PRACTICALS)	3 hrs/wk-2 BATCHES =6 hrs/wk
6	M.Sc I Sem	35	MBH-103-MICROBIAL PHYSIOLOGY & BIOCHEMISTRY (THEORY)	2 hr/wk
7	M.Sc I Sem	35	MBP-105- BACTERIOLOGY, VIROLOGY AND EUKARYOTIC MICROBIOLOGY-(PRACTICALS)	4 hr/wk
			Total	27hrs/wk

Work load

For the odd semester December2022 to April 2023

Name of the faculty: Dr. Vemula Vani

Department: Microbiology

Sl No	Class	Student Strength	Paper	Hr/ week
1	MSc MB Sem III	34	MBH 303: Recombinant DNA Technology	4
2	MSc MB Sem I	30	MBH 103: Microbial physiology and biochemical techniques	2
3	MSc MB/BT Sem III	79	MBP 306: Bioinformatics lab	8
4	MSc MB Sem I	30	MBP 106: Microbial physiology and biochemical techniques Lab	8
			Total	22

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DEPARTMENT OF MICROBIOLOGY

Work load
For the odd semester from June 2022-23

Name of the faculty: **Dr. Snehalatha V**
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	I sem M. Sc	30	MBH 104: Microbial and Biochemical techniques	4
2	I sem M. Sc	30	MBP 107: Microbial physiology, Biochemistry and Microbial techniques lab	8
3	III sem M. Sc	34	MBH 301: Medical Microbiology	2
4	III sem M. Sc	34	MBP 306: Recombinant DNA Technology and Bioinformatics	8
Total				**22**

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DEPARTMENT OF MICROBIOLOGY

Work load
For the odd semester from June 2022-23

Name of the faculty: **Dr. Nimita Venugopal C**
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	I sem M. Sc	30	MBH 101: Bacteriology and Virology	4
2	I sem M. Sc	30	MBH 106: Bacteriology, virology and Eukaryotic Microbiology	4
3	III sem M. Sc	34	MBH 301: Medical Microbiology	2
4	III sem M. Sc	34	MBP 305: Medical Microbiology and Immunology	8
5	III sem M. Sc	34	MBP 306: Recombinant DNA Technology and Bioinformatics	4
Total				**22**

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WORKLOAD DISTRIBUTION

Semester: odd

Academic year: September 2022 to February 2023

Name of the faculty: Dr. Bhanupriya Ch
Department: Microbiology

S. No	Class	Student Strength	Subject	Hr/ week
1.	III Sem B.Sc (B Sec Theory)	76	Theory: MBL 103: Microbial Diversity	2
2.	III Sem B.Sc (B Sec Theory)	65	Theory: MBL 103: Microbial Diversity	2
3.	III Sem B.Sc (B Sec Theory)	53	Theory: MBL 103: Microbial Diversity	2
4.	III SEM B.Sc (Practicals)	30 + 30 + 30 + 30	Practicals: MBP 104: Microbial Diversity	3 + 3 + 3 +3
5	V SEM B.Sc (Practicals)	30 + 30	Practicals: Industrial Microbiology	3 + 3

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Work load

For the odd semester from Nov-2022 to March 2023

Name of the faculty: **Dr.Yogesh D**
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	V SEM BSC SEC-A	79	T: Vth sem Theory Paper	2
2	V SEM BSC SEC-B	76	T: Vth sem Theory Paper	2
3	V SEM BSC SEC-C	58	T: Vth sem Theory Paper	2
4	V SEM BSC Practical	20 per Batch	P- Vth sem Practicals	18
			Total	24 HRS

Workload distribution

Semester : ODD

Academic year:2022-23

Name of the faculty: Dr. Ramesha A
Department: Microbiology

Sl No	Class	Student Strength	Subject	Hr/ week
1.	5th Sem B.Sc. Sect-A	80	T: MBT-503-Food and Dairy Microbiology P: MBP-504-Food and Dairy Microbiology	1 9
2.	5th Sem B.Sc. Sect-B	80	T: MBT-503-Food and Dairy Microbiology P: MBP-504-Food and Dairy Microbiology	1 6
3.	5th Sem B.Sc. Sect-C	60	T: MBT-503-Food and Dairy Microbiology P: MBP-504-Food and Dairy Microbiology	1 3
4.	5th Sem B.Sc. Sect- A	80	MBT-501: Agriculture and Environmental Microbiology	1
6.	5th Sem B.Sc. Sect- C	57	MBT-501: Agriculture and Environmental Microbiology	1
			Total	23

Workload

For the odd semester from November 2022 to February 2023

Name of the faculty: Dr. JULIYA RANI FRANCIS
Department: MICROBIOLOGY

S. No	Class	Student Strength	Paper	Hours/ week
1.	I Sem BSc. Sec A	44	DSC-T1 MBL101: GENERAL MICROBIOLOGY (THEORY)	2
2.	I Sem BSc. Sec B	30	DSC-T1 MBL101: GENERAL MICROBIOLOGY (THEORY)	2
3.	I Sem BSc. Sec C	33	DSC-T1 MBL101: GENERAL MICROBIOLOGY (THEORY)	2
4.	I Sem BSc. Sec A (Batch A3)	15	DSC-P1 MBL101: GENERAL MICROBIOLOGY (PRACTICAL)	3
5.	I Sem BSc. Sec C (Batch C2)	16	DSC-P1 MBL101: GENERAL MICROBIOLOGY (PRACTICAL)	3
6.	I Sem BSc. Sec A (Batch B3)	5	DSC-P1 MBL101: GENERAL MICROBIOLOGY (PRACTICAL)	3
7.	I Sem BSc. Sec A (Batch A2)	15	DSC-P1 MBL101: GENERAL MICROBIOLOGY (PRACTICAL)	3
8.	VI Sem BSc. Sec C (Batch G2)	26	MBP 501: AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY	3
9.	VI Sem BSc. Sec A (Batch A1)	25	MBP 501: AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY	3
			Total	24

Work load

For the even semester from Dec 2023 to April 2023

Name of the faculty: Dr Akshata G Athreya
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	V Sem A Sec	79	MBP 501- Agriculture and Environmental Microbiology	1 h/week
2	V Sem B Sec	76	MBP 501- Agriculture and Environmental Microbiology	2 h/week
3	V Sem C Sec	55	MBP 501- Agriculture and Environmental Microbiology	1 h/week
4	1st sem-A1,B1	55	MBL 101 General microbiology	6 h/week
5	3rd sem-B2	30	MBL 103 Microbial diversity	3h/week
6	5th sem-A2, A3	60	Agriculture and Environmental Microbiology	6 h/week
			Total	19 h/week

Work load

For the even semester from Nov 2022 to January 2023

Name of the faculty: **Soumya.S Shanbhag**
Department: Microbiology

Sl No	Class	Student Strength	Paper	Hrs/ week
1	I SEM BSC SEC-A	55	T: General Microbiology DSC-T1MBL101 P: General Microbiology DSC-P1MBL101	2 6
2	I SEM B.SC SEC-B	31	T: General Microbiology DSC-T1MBL101 P: General Microbiology DSC-P1MBL101	2 3
3	I SEM B.SC SEC-C	42	T: General Microbiology DSC-T1MBL101 P: General Microbiology DSC-P1MBL101	2 3
4	V SEM B.Sc Sec B	27	P: Agricultural and Environmental Microbiology (B1 batch)	3
5	V SEM B.Sc Sec C	30	P: Food and Dairy Microbiology (G1 Batch)	3
			Total	24 HRS

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DBT Star College Scheme

Faculty Workload

Academic Year: 22-23 **Date of Commencement of Semester:** Feb 01, 2023

Revised: .....
(If applicable)

Term: Odd Semester ☑ Even Semester ☐

Stream: Management
(Science / Commerce / Humanities / Management)

Name of the faculty: Md. Azhar Hussain **Department:** M.B.A

Rank: Assistant Professor.

Course :			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) Employability Skill Development (I sem)	2	✓	
b) Rural marketing (III sem)	4	✓	
c) Performance Mgt (IV sem)	4	✓	
d) Placement training	4	✓	
e) Mentoring and Research	2		
Total Workload:	16		

Signature of Faculty

Signature of HOD

Principal

P.G. DEPARTMENT OF MANAGEMENT STUDIES, MSRIT POST, M.S.P. NAGAR, BANGALORE-560 054

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DBT Star College Scheme

Faculty Workload

Academic Year: 2022-23 **Date of Commencement of Semester:** feb 2022

Revised: .....
(If applicable)

Term: Odd Semester ☑ III Sem. MBA. Even Semester ☐

Stream: .....
(Science / Commerce / Humanities / Management)

Name of the faculty: Dr. Shaista Banu Harris **Department:** MBA

Rank: Asst professor

Course :			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) Smbe Strategic mange & Bus ethics (III Sem	4	✓	
b) learning & devt. III sem (HR)	4	✓	
c) Business planning & regulatin (I Sem)	4	✓	
d) Mentoring	2	.	
e) Research.	2		
Total Workload: 16 hrs.			

Signature of Faculty

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Faculty Workload

Academic Year: .....2022-23.....**Date of Commencement of Semester:** .....Feb 2023.

Revised: .....
(If applicable)

Term: Odd Semester ☑ Even Semester ☐

Stream: .....management.....
(Science / Commerce / Humanities / Management)

Name of the faculty: .....DR. PALLAVI..... **Department:** .....MBA

Rank: .....

Course :			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) Management by objective I	4		
b) Consumer behaviour & neuromarketing III	4		
c) mentoring	2		
d) Research.	2		
e)			
Total Workload: 12.			

Signature of Faculty

Signature of HOD

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Faculty Workload

Academic Year: 2022-2023 **Date of Commencement of Semester:** feb-2023

Revised: .....
(If applicable)

Term: Odd Semester ☑ Even Semester ☐

Stream: ..... ✓
(Science / Commerce / Humanities / Management)

Name of the faculty: Vichitra Somashekar **Department:** MBA

Rank: Assit professor.

Course :			
Subject	**No. of hrs. per week**	**Theory**	**Practical (if applicable)**
a) Talent Mangt III sem	4		
b) Bus & social marketing III sem	4		
c) Marketing mangt I sem.	4		
d) mentoring	2		
e) Research	2		
Total Workload: 16			

Signature of Faculty

Signature of HOD

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M S Ramaiah College of Arts, Science and Commerce

Bengaluru

COURSE BOOK

Period of the Semester : **From** 8 May 2023 **To** 19 Aug 2023

Dept-Sem-Sec: MbBc-2-C, BtMb-2-B, BtMb-2-A, BtC-2-B

Subject with Code: GENETIC COUNSELLING (OEC5GENT2)

Time Slot		
MON: 14:30 - 15:30	**TUE :**	**WED:** 13:30 - 14:30
THU :	**FRI :**	**SAT :**

Name of the Teacher : Dr Pavithra Kumari H G

Lesson Plan & Execution

Name of the Faculty	***Dr Pavithra Kumari H G***
Dept-Sem-Sec	***MbBc-2-C, BtMb-2-B, BtMb-2-A, BtC-2-B***
Date of Commencement	***8 May 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

TEXT 1	Doing a literature review in health and social care, a practical guide, Helen Aveyard (2014),
TEXT 2	Doing your research project, a guide for first,time researcher, Judith Bell with Stephen Waters (2014),
TEXT 3	Facilitating the genetic counseling process, practice,based skills, Patricia McCarthy Veach, Bonnie S, LeRoy and Nancy P, Callanan (2018),
TEXT 4	Family communication about genetics, theory and practice, Clara L, Gaff and Carma L, Bylund (2010),
TEXT 5	Foundations of perinatal genetic counseling, a guide for counselors, Amber Mathiesen and Kali Roy (2018),
TEXT 6	Gardner and Sutherland's chromosome abnormalities and genetic counselling, R,J, McKinlay Gardner and David J, Amor (2018),
TEXT 7	Genetic counseling, ethical challenges and consequences, Dianne M, Bartels, Bonnie S, LeRoy, and Arthur L, Caplan (2011),
TEXT 8	Genetic counseling for adult neurogenetic disease, a casebook for clinicians, Jill S, Goldman (2015),
TEXT 9	Genetic counseling research, a practical guide, Ian M, MacFarlane, Patricia McCarthy Veach, Bonnie S, LeRoy (2014),
TEXT 10	A guide to genetic counselling, edited by Wendy R, Uhlmann, Jane L, Schuette, Beverly M, Yashar (2009),
REF 1	Helping the client, a creative practical guide, John Heron (2001),
REF 2	How to read a paper, the basics of evidence,based medicine, Trisha Greenhalgh (2014),

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	8 May 2023	Introduction, Historical over view				Lecture	
1	E	8 May 2023	Introduction, Historical over view				Lecture	
2	P	10 May 2023	types and scope, Counsellor				Lecture	
2	E	10 May 2023	types and scope, Counsellor				Lecture	
3	P	15 May 2023	Definition, Role				Lecture	
3	E	15 May 2023	Definition, Role				Lecture	
4	P	17 May 2023	Qualities and responsibilities, Consultant				Lecture	
4	E	17 May 2023	Qualities and responsibilities, Consultant				Lecture	
5	P	22 May 2023	Definition, needs				Lecture	
5	E	22 May 2023	Definition, needs				Lecture	
6	P	24 May 2023	Rights				Lecture	
6	E	24 May 2023	Rights				Lecture	
7	P	29 May 2023	Definition, objectives, important issues in genetic counselling				Lecture	
7	E	29 May 2023	Definition, objectives, important issues in genetic counselling				Lecture	
8	P	31 May 2023	Counselor ’s background, cultural knowledge				Lecture	
8	E	31 May 2023	Counselor ’s background, cultural knowledge				Lecture	
9	P	5 Jun 2023	health benefits, family issues				Lecture	
9	E	5 Jun 2023	health benefits, family issues				Lecture	
10	P	7 Jun 2023	building rapport, empathy in family				Lecture	
10	E	7 Jun 2023	building rapport, empathy in family				Lecture	
11	P	7 Jun 2023	Definition, objectives, types of groups				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
11	E	7 Jun 2023	Definition, objectives, types of groups				Lecture	
12	P	7 Jun 2023	theoretically oriented group counselling, Behavioral counselling, Transactional counselling				Lecture	
12	E	7 Jun 2023	theoretically oriented group counselling, Behavioral counselling, Transactional counselling				Lecture	
13	P	7 Jun 2023	Group crisis intervention,Family counselling, Definition				Lecture	
13	E	7 Jun 2023	Group crisis intervention, Family counselling, Definition				Lecture	
14	P	7 Jun 2023	objectives, selecting family therapy as the method of choice, family counselling theories and psychoanalytical therapies				Lecture	
14	E	7 Jun 2023	objectives, selecting family therapy as the method of choice, family counselling theories and psychoanalytical therapies				Lecture	
Module 2								
15	P	12 Jun 2023	Information gathering, medical evaluation				Lecture	
15	E	12 Jun 2023	Information gathering, medical evaluation				Lecture	
16	P	14 Jun 2023	Physical examination and investigations, Medico legal case				Lecture	
16	E	14 Jun 2023	Physical examination and investigations, Medico legal case				Lecture	
17	P	19 Jun 2023	Diagnosis based on medical history (Past medical, social and family history)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
17	E	19 Jun 2023	Diagnosis based on medical history (Past medical, social and family history)				Lecture	
18	P	21 Jun 2023	Risk Psychological aspects of counselling				Lecture	
18	E	21 Jun 2023	Risk Psychological aspects of counselling				Lecture	
19	P	26 Jun 2023	assessments – Communication				Lecture	
19	E	26 Jun 2023	assessments – Communication				Lecture	
20	P	28 Jun 2023	discussion of options				Lecture	
20	E	28 Jun 2023	discussion of options				Lecture	
21	P	3 Jul 2023	Role of social workers, Nutritional, occupational				Lecture	
21	E	3 Jul 2023	Role of social workers, Nutritional, occupational				Lecture	
22	P	5 Jul 2023	Physical, Speech therapist, Psychologists and school professional in genetic counselling				Lecture	
22	E	5 Jul 2023	Physical, Speech therapist, Psychologists and school professional in genetic counselling				Lecture	
23	P	10 Jul 2023	Educating the consultant, Presenting the Risks, Options and Guiding				Lecture	
23	E	10 Jul 2023	Educating the consultant, Presenting the Risks, Options and Guiding				Lecture	
24	P	12 Jul 2023	Diagnostics problems in Genetic counselling, Indications for genetic counselling and genetic counselling case management				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
24	E	12 Jul 2023	Diagnostics problems in Genetic counselling, Indications for genetic counselling and genetic counselling case management				Lecture	
25	P	12 Jul 2023	Reproductive failures				Lecture	
25	E	12 Jul 2023	Reproductive failures				Lecture	
26	P	12 Jul 2023	Reproductive failures				Lecture	
26	E	12 Jul 2023	Reproductive failures				Lecture	
27	P	12 Jul 2023	consanguinity				Lecture	
27	E	12 Jul 2023	consanguinity				Lecture	
28	P	12 Jul 2023	endogamous marriages and its impact on genetic disorders				Lecture	
28	E	12 Jul 2023	endogamous marriages and its impact on genetic disorders				Lecture	
Module 3								
29	P	12 Jul 2023	Registries and support groups for rare medical disorders				Lecture	
29	E	12 Jul 2023	Registries and support groups for rare medical disorders				Lecture	
30	P	17 Jul 2023	Registries and support groups for rare medical disorders				Lecture	
30	E	17 Jul 2023	Registries and support groups for rare medical disorders				Lecture	
31	P	19 Jul 2023	Principles of predictive counselling and testing in late onset disorders imparting results of predictive testing				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
31	E	19 Jul 2023	Principles of predictive counselling and testing in late onset disorders imparting results of predictive testing				Lecture	
32	P	24 Jul 2023	Principles of predictive counselling and testing in late onset disorders imparting results of predictive testing				Lecture	
32	E	24 Jul 2023	Principles of predictive counselling and testing in late onset disorders imparting results of predictive testing				Lecture	
33	P	26 Jul 2023	Counselling and management in follow up sessions				Lecture	
33	E	26 Jul 2023	Counselling and management in follow up sessions				Lecture	
34	P	31 Jul 2023	Counselling and management in follow up sessions				Lecture	
34	E	31 Jul 2023	Counselling and management in follow up sessions				Lecture	
35	P	2 Aug 2023	Ethical issues in testing of minors				Lecture	
35	E	2 Aug 2023	Ethical issues in testing of minors				Lecture	
36	P	7 Aug 2023	Prenatal diagnosis in late onset disorders				Lecture	
36	E	7 Aug 2023	Prenatal diagnosis in late onset disorders				Lecture	
37	P	9 Aug 2023	Ethical				Lecture	
37	E	9 Aug 2023	Ethical				Lecture	
38	P	14 Aug 2023	legal and social issues (ELSI)				Lecture	
38	E	14 Aug 2023	legal and social issues (ELSI)				Lecture	
39	P	14 Aug 2023	The medical termination of pregnancy act 1971, The Pre				Lecture	
39	E	14 Aug 2023	The medical termination of pregnancy act 1971, The Pre				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
40	P	14 Aug 2023	natal diagnostic techniques act 1994, Regulatory bodies of Genetic counselling				Lecture	
40	E	14 Aug 2023	natal diagnostic techniques act 1994, Regulatory bodies of Genetic counselling				Lecture	
41	P	14 Aug 2023	BGCI (India), ABGC (USA)				Lecture	
41	E	14 Aug 2023	BGCI (India), ABGC (USA)				Lecture	
42	P	14 Aug 2023	CAGC (Canada)				Lecture	
42	E	14 Aug 2023	CAGC (Canada)				Lecture	

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M S Ramaiah College of Arts, Science and Commerce

Bengaluru

COURSE BOOK

Period of the Semester : **From** 8 May 2023 **To** 19 Aug 2023

Dept-Sem-Sec: MbGn-2-C, GnBc-2-C

Subject with Code: BIOINSTRUMENTATION AND ANIMAL CELL CULTURE (DSCC5GENT2)

Time Slot

MON:	**TUE :**	**WED:** 10:30 - 11:30
THU : 10:30 - 11:30	**FRI :**	**SAT :**

Name of the Teacher : Dr Pavithra Kumari H G

Lesson Plan & Execution

Name of the Faculty	***Dr Pavithra Kumari H G***
Dept-Sem-Sec	***MbGn-2-C, GnBc-2-C***
Date of Commencement	***8 May 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

TEXT 1	Alberts B, Johnson A, Lewis J, et al, "Molecular Biology of the Cell", 2002, 4th edition, New York, Garland Science
TEXT 2	Lodish H, Berk A, Zipursky SL, et al, "Molecular Cell Biology", 2000, 4th edition, New York, W, H, Freeman
TEXT 3	R, Freshney, "Culture of Animal Cells,A Manual of Basic Technique and Specialized Applications", 2015, Seventh edition, Wiley Blackwell,
TEXT 4	John M, Davis, "Animal Cell Culture, Essential Methods" 2011, John Wiley & Sons Ltd,
TEXT 5	A, J, Ninfa and D, P, Ballou, Fundamental Laboratory Approaches for Biochemistry and Biotechnology, 1998 2nd Edition Wiley,
TEXT 6	J, Sambrook and D, W, Russell, Molecular Cloning, A Laboratory Manual, 2001, 3rd Edition Cold Spring Harbor Laboratory Press
REF 1	Bronzino, J, D, (1986), Biomedical engineering and instrumentation, PWS Publishing Co,
REF 2	Willard Van Nostrand, ",Instrumental Methods of Analysis ",
REF 3	Sharms, "Instrumental Methods ", S Chand & Co,
REF 4	Harry Bronzino E, "Handbook of Biomedical Engineering and Measurements ",Reston, Virginia,
REF 5	Jacobson & Websler, " Medicine& Clinical Engg ",
REF 6	Leslie Cromwell, " Biomedical Instrumentation and Measurements ",

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	10 May 2023	Microscopy, Introduction, and history of Microscopy				Lecture	
1	E	10 May 2023	Microscopy, Introduction, and history of Microscopy				Lecture	
2	P	11 May 2023	Principle and Optical Components of microscope, Eye piece, Eye piece tube				Lecture	
2	E	11 May 2023	Principle and Optical Components of microscope, Eye piece, Eye piece tube				Lecture	
3	P	17 May 2023	Objective lenses, Coarse and Fine Focus knobs, Stage and stage clips				Lecture	
3	E	17 May 2023	Objective lenses, Coarse and Fine Focus knobs, Stage and stage clips				Lecture	
4	P	18 May 2023	Aperture, Illuminator, Condenser				Lecture	
4	E	18 May 2023	Aperture, Illuminator, Condenser				Lecture	
5	P	24 May 2023	Condenser Focus Knob, Iris Diaphragm				Lecture	
5	E	24 May 2023	Condenser Focus Knob, Iris Diaphragm				Lecture	
6	P	24 May 2023	Simple and Compound microscopes, Light microscopes				Lecture	
6	E	24 May 2023	Simple and Compound microscopes, Light microscopes				Lecture	
7	P	24 May 2023	Fluorescence, electron microscopy (transmission and scanning)				Lecture	
7	E	24 May 2023	Fluorescence, electron microscopy (transmission and scanning)				Lecture	
8	P	24 May 2023	Phase contrast, Confocal				Lecture	
8	E	24 May 2023	Phase contrast, Confocal				Lecture	
9	P	24 May 2023	Stereo microscopy				Lecture	
9	E	24 May 2023	Stereo microscopy				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
10	P	24 May 2023	Optical pathway in different microscopes				Lecture	
10	E	24 May 2023	Optical pathway in different microscopes				Lecture	
11	P	24 May 2023	High resolution imaging, immune histochemistry				Lecture	
11	E	24 May 2023	High resolution imaging, immune histochemistry				Lecture	
12	P	24 May 2023	high				Lecture	
12	E	24 May 2023	high				Lecture	
13	P	24 May 2023	content screening and high?throughput imaging				Lecture	
13	E	24 May 2023	content screening and high?throughput imaging				Lecture	
14	P	24 May 2023	Medical science				Lecture	
14	E	24 May 2023	Medical science				Lecture	
15	P	24 May 2023	Forensic laboratories				Lecture	
15	E	24 May 2023	Forensic laboratories				Lecture	
Module 2								
16	P	24 May 2023	Analytical Instruments, pH meter,principle and components of pH meter				Lecture	
16	E	24 May 2023	Analytical Instruments, pH meter, principle and components of pH meter				Lecture	
17	P	25 May 2023	Thermometer, principle				Lecture	
17	E	25 May 2023	Thermometer, principle				Lecture	
18	P	31 May 2023	types of thermometers,digital				Lecture	
18	E	31 May 2023	types of thermometers, digital				Lecture	
19	P	1 Jun 2023	mercury, strip?type				Lecture	
19	E	1 Jun 2023	mercury, strip?type				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
20	P	7 Jun 2023	Infrared, Axillar				Lecture	
20	E	7 Jun 2023	Infrared, Axillar				Lecture	
21	P	8 Jun 2023	Colorimeter, principles of measurement and applications				Lecture	
21	E	8 Jun 2023	Colorimeter, principles of measurement and applications				Lecture	
22	P	8 Jun 2023	Spectrophotometer, Beer				Lecture	
22	E	8 Jun 2023	Spectrophotometer, Beer				Lecture	
23	P	8 Jun 2023	Lambert ’s Law in spectrometry, UV spectrophotometers				Lecture	
23	E	8 Jun 2023	Lambert ’s Law in spectrometry, UV spectrophotometers				Lecture	
24	P	8 Jun 2023	Atomic absorption spectroscopy (AAS), Electron Spin Resonance (ESR)				Lecture	
24	E	8 Jun 2023	Atomic absorption spectroscopy (AAS), Electron Spin Resonance (ESR)				Lecture	
25	P	8 Jun 2023	Nuclear Magnetic Resonance (NMR) Spectrophotometers, Flame photometer				Lecture	
25	E	8 Jun 2023	Nuclear Magnetic Resonance (NMR) Spectrophotometers, Flame photometer				Lecture	
26	P	8 Jun 2023	Autoclave				Lecture	
26	E	8 Jun 2023	Autoclave				Lecture	
27	P	8 Jun 2023	Autoclave				Lecture	
27	E	8 Jun 2023	Autoclave				Lecture	
28	P	8 Jun 2023	steam sterilizers				Lecture	
28	E	8 Jun 2023	steam sterilizers				Lecture	
29	P	8 Jun 2023	steam sterilizers				Lecture	
29	E	8 Jun 2023	steam sterilizers				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
30	P	8 Jun 2023	dry heat sterilizers and ovens and UV chambers				Lecture	
30	E	8 Jun 2023	dry heat sterilizers and ovens and UV chambers				Lecture	
Module 3								
31	P	14 Jun 2023	Centrifugation, Principle and applications of centrifuge, types of centrifuge				Lecture	
31	E	14 Jun 2023	Centrifugation, Principle and applications of centrifuge, types of centrifuge				Lecture	
32	P	15 Jun 2023	high speed centrifuge, ultra,centrifuge				Lecture	
32	E	15 Jun 2023	high speed centrifuge, ultra, centrifuge				Lecture	
33	P	21 Jun 2023	Refrigerated centrifuge, Rotors, Types of rotors				Lecture	
33	E	21 Jun 2023	Refrigerated centrifuge, Rotors, Types of rotors				Lecture	
34	P	22 Jun 2023	vertical, Swing				Lecture	
34	E	22 Jun 2023	vertical, Swing				Lecture	
35	P	28 Jun 2023	out, Fixed angle				Lecture	
35	E	28 Jun 2023	out, Fixed angle				Lecture	
36	P	28 Jun 2023	Principle, types and application of Chromatography?paper chromatography				Lecture	
36	E	28 Jun 2023	Principle, types and application of Chromatography?paper chromatography				Lecture	
37	P	28 Jun 2023	ion exchange				Lecture	
37	E	28 Jun 2023	ion exchange				Lecture	
38	P	28 Jun 2023	gel filtration				Lecture	
38	E	28 Jun 2023	gel filtration				Lecture	
39	P	28 Jun 2023	HPLC				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
39	E	28 Jun 2023	HPLC				Lecture	
40	P	28 Jun 2023	affinity chromatography				Lecture	
40	E	28 Jun 2023	affinity chromatography				Lecture	
41	P	28 Jun 2023	Electrophoresis, Principle and applications of electrophoresis				Lecture	
41	E	28 Jun 2023	Electrophoresis, Principle and applications of electrophoresis				Lecture	
42	P	28 Jun 2023	Types of electrophoresis, vertical and horizontal				Lecture	
42	E	28 Jun 2023	Types of electrophoresis, vertical and horizontal				Lecture	
43	P	28 Jun 2023	Components, Electrodes				Lecture	
43	E	28 Jun 2023	Components, Electrodes				Lecture	
44	P	28 Jun 2023	Power supply				Lecture	
44	E	28 Jun 2023	Power supply				Lecture	
45	P	28 Jun 2023	electrophoresis chamber				Lecture	
45	E	28 Jun 2023	electrophoresis chamber				Lecture	
Module 4								
46	P	28 Jun 2023	Principles of cell culture, cell types				Lecture	
46	E	28 Jun 2023	Principles of cell culture, cell types				Lecture	
47	P	5 Jul 2023	cell lines, Primary culture				Lecture	
47	E							
48	P	6 Jul 2023	secondary culture, cryopreservation				Lecture	
48	E							
49	P	12 Jul 2023	contaminations				Lecture	
49	E							
50	P	13 Jul 2023	organotypic culture				Lecture	
50	E							

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
51	P	19 Jul 2023	Requirements in Animal Cell Culture, Equipments used in Cell culture				Lecture	
51	E							
52	P	19 Jul 2023	Culture vessels, Aseptic techniques				Lecture	
52	E							
53	P	19 Jul 2023	Cell culture media, Natural and defined				Lecture	
53	E							
54	P	19 Jul 2023	role and components of serum in culture, Invitro transformation of animal cells				Lecture	
54	E							
55	P	19 Jul 2023	Types of cell culture				Lecture	
55	E							
56	P	19 Jul 2023	Cell culture in biomedical research				Lecture	
56	E							
57	P	19 Jul 2023	karyological studies				Lecture	
57	E							
58	P	19 Jul 2023	amniocentesis				Lecture	
58	E							
59	P	19 Jul 2023	mutagenesis				Lecture	
59	E							
60	P	19 Jul 2023	Cytotoxicity assays				Lecture	
60	E							

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COURSE BOOK

Period of the Semester : **From** 24 Apr 2023 **To** 19 Aug 2023

Dept-Sem-Sec: MbGnBc-6-A

Subject with Code: APPLIED AND BEHAVIORAL GENETICS (GNT 602)

Time Slot

MON: 11:40 - 12:40	**TUE :**	**WED:**
THU : 11:30 - 12:30	**FRI :** 09:30 - 10:30	**SAT :**

Name of the Teacher : Dr Pavithra Kumari H G

Lesson Plan & Execution

Name of the Faculty	***Dr Pavithra Kumari H G***
Dept-Sem-Sec	***MbGnBc-6-A***
Date of Commencement	***24 Apr 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

REF 1	Biotechnology, Satyanarayana U (2010) Books and allied (P) Ltd., Kolkata
REF 2	Cancer Biology, Raymond W.R (2007) Oxford University Press, Newyork
REF 3	Essentials of plant Breeding, Phundan Singh, Kalyanai publishers, 2015
REF 4	Gene cloning and DNA analysis, T.A.Brown (2010) 6th edition, Wiley Blackwell publication
REF 5	Human Molecular Genetics, Peter Sudbery (2002) 2nd Edition, Prentice Hall
REF 6	Human Molecular Genetics, Tom Strachen and Andrew P. Read (1999) 2nd edition, John Wile and sons.
REF 7	Molecular Biotechnology, Principales and application of recombinant DNA Glick and Pasternak. 2010.
REF 8	Plant breeding Principles and methods, B.D. Singh 2015, Kalyanai publishers.
REF 9	Principles of gene manipulation, Old R.W. and S.B. Primrose (1994) Boston Blackwell Scientific Publication

Course Outcome List

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	24 Apr 2023	Production of recombinant insulin				Lecture	
1	E	24 Apr 2023	Production of recombinant insulin				Lecture	
2	P	27 Apr 2023	Production of recombinant insulin				Lecture	
2	E	27 Apr 2023	Production of recombinant insulin				Lecture	
3	P	28 Apr 2023	interferon and human growth hormone (HGH) Vaccines: Hepatitis B vaccine Preparation of molecular probes				Lecture	
3	E	28 Apr 2023	interferon and human growth hormone (HGH)Vaccines: Hepatitis B vaccinePreparation of molecular probes				Lecture	
4	P	4 May 2023	interferon and human growth hormone (HGH) Vaccines: Hepatitis B vaccine Preparation of molecular probes				Lecture	
4	E	4 May 2023	interferon and human growth hormone (HGH)Vaccines: Hepatitis B vaccinePreparation of molecular probes				Lecture	
5	P	5 May 2023	Monoclonal antibodies and diagnostic kits Microarray				Lecture	
5	E	5 May 2023	Monoclonal antibodies and diagnostic kitsMicroarray				Lecture	
6	P	8 May 2023	Methodology of DNA fingerprinting Molecular markers –RAPD, RFLP				Lecture	
6	E	8 May 2023	Methodology of DNA fingerprintingMolecular markers –RAPD, RFLP				Lecture	
7	P	11 May 2023	Microsatellite, SNPs				Lecture	
7	E	11 May 2023	Microsatellite, SNPs				Lecture	
8	P	12 May 2023	STR Applications in Forensic science				Lecture	
8	E	12 May 2023	STRApplications in Forensic science				Lecture	
9	P	15 May 2023	Medicolegal aspects				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
9	E	15 May 2023	Medicolegal aspects				Lecture	
10	P	18 May 2023	Introduction to bioinformatics Tools of Bioinformatics - FASTA				Lecture	
10	E	18 May 2023	Introduction to bioinformaticsTools of Bioinformatics - FASTA				Lecture	
11	P	19 May 2023	Introduction to bioinformatics Tools of Bioinformatics - FASTA				Lecture	
11	E	19 May 2023	Introduction to bioinformaticsTools of Bioinformatics - FASTA				Lecture	
12	P	22 May 2023	BLAST				Lecture	
12	E	22 May 2023	BLAST				Lecture	
13	P	25 May 2023	RASMOL Applications of Bioinformatics				Lecture	
13	E	25 May 2023	RASMOLApplications of Bioinformatics				Lecture	
Module 2								
14	P	26 May 2023	Germplasm, Classification				Lecture	
14	E	26 May 2023	Germplasm, Classification				Lecture	
15	P	29 May 2023	Germplasm activities and organization associated with germplasm (NBPGR, IBPGR) Genetic erosion				Lecture	
15	E	29 May 2023	Germplasm activities and organizationassociated with germplasm (NBPGR, IBPGR) Genetic erosion				Lecture	
16	P	1 Jun 2023	biodiversity, Red data book				Lecture	
16	E	1 Jun 2023	biodiversity, Red data book				Lecture	
17	P	2 Jun 2023	endangered species, ex- situ and in-situ conservation				Lecture	
17	E	2 Jun 2023	endangered species, ex- situ and in-situconservation				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
18	P	5 Jun 2023	Vavilovian center for biodiversity, Gene bank and cryopreservation – Types and methods				Lecture	
18	E	5 Jun 2023	Vavilovian center for biodiversity, Gene bank and cryopreservation – Types and methods				Lecture	
19	P	8 Jun 2023	Mating behavior in Drosophila				Lecture	
19	E	8 Jun 2023	Mating behavior in Drosophila				Lecture	
20	P	9 Jun 2023	Mating behavior in Drosophila				Lecture	
20	E	9 Jun 2023	Mating behavior in Drosophila				Lecture	
21	P	12 Jun 2023	Hygienic behavior in Honeybee				Lecture	
21	E	12 Jun 2023	Hygienic behavior in Honeybee				Lecture	
22	P	15 Jun 2023	Nesting behavior in Ants				Lecture	
22	E	15 Jun 2023	Nesting behavior in Ants				Lecture	
23	P	16 Jun 2023	Territoriality and conflict behavior in Primates				Lecture	
23	E	16 Jun 2023	Territoriality and conflict behavior in Primates				Lecture	
24	P	19 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
24	E	19 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
25	P	22 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
25	E	22 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
26	P	23 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
26	E	23 Jun 2023	Her2 testing for breast cancer – (FISH)				Lecture	
27	P	26 Jun 2023	Frigile X syndrome – Microsatellite marker analysis				Lecture	
27	E	26 Jun 2023	Frigile X syndrome –Microsatellite marker analysis				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
28	P	30 Jun 2023	Frigile X syndrome – Microsatellite marker analysis				Lecture	
28	E	30 Jun 2023	Frigile X syndrome –Microsatellite marker analysis				Lecture	
Module 3								
29	P	3 Jul 2023	Introduction to heterosis and characteristics, a) In Animals: Animal breeding –Introduction				Lecture	
29	E	3 Jul 2023	Introduction to heterosis and characteristics, a) In Animals:Animal breeding –Introduction				Lecture	
30	P	6 Jul 2023	inbreeding , grading				Lecture	
30	E	6 Jul 2023	inbreeding, grading				Lecture	
31	P	7 Jul 2023	cross breeding, artificial insemination in cattle Fish breeding (Selection				Lecture	
31	E	7 Jul 2023	cross breeding, artificial insemination in cattle Fish breeding (Selection				Lecture	
32	P	10 Jul 2023	Induced Polyploidy, Gynogenesis and Androgenesis				Lecture	
32	E	10 Jul 2023	Induced Polyploidy, Gynogenesis and Androgenesis				Lecture	
33	P	13 Jul 2023	Inbreeding), Breeding strategies for improvement of livestock for milk				Lecture	
33	E	13 Jul 2023	Inbreeding), Breeding strategies for improvement of livestock for milk				Lecture	
34	P	14 Jul 2023	meat, wool production				Lecture	
34	E	14 Jul 2023	meat, wool production				Lecture	
35	P	17 Jul 2023	Breeding strategies for improvement of Poultry –Giriraja				Lecture	
35	E	17 Jul 2023	Breeding strategies for improvement of Poultry –Giriraja				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
36	P	20 Jul 2023	b)In plants: Genetic concepts – Dominance and Over dominance				Lecture	
36	E	20 Jul 2023	b)In plants:Genetic concepts – Dominance and Over dominance				Lecture	
37	P	21 Jul 2023	Hybridization techniques – Intergeneric and interspecific hybridization				Lecture	
37	E	21 Jul 2023	Hybridization techniques – Intergeneric and interspecific hybridization				Lecture	
38	P	24 Jul 2023	Identification of hybrid plants				Lecture	
38	E							
39	P	27 Jul 2023	Inbreeding depression				Lecture	
39	E							
40	P	28 Jul 2023	Hybrid vigor exploitation in Rice and Tomato				Lecture	
40	E							

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Bengaluru

COURSE BOOK

Period of the Semester : **From** 21 Nov 2022 **To** 21 Mar 2023

Dept-Sem-Sec: BtMb-3-A

Subject with Code: BIOMOLECULES (BTH-301)

Time Slot

MON:	**TUE :**	**WED:**
THU : 09:30 - 10:30	**FRI :** 10:30 - 11:30	**SAT :**

Name of the Teacher : Dr Radha Dayanidhi

Lesson Plan & Execution	
Name of the Faculty	***Dr Radha Dayanidhi***
Dept-Sem-Sec	***BtMb-3-A***
Date of Commencement	***21 Nov 2022***
Last Working Day of Semester	***21 Mar 2023***
Source Material List	
Course Outcome List	

1	Acquireknowledgeabouttypesofbiomolecules,structure,andtheirfunctions
2	Willbeabletodemonstratetheskillstoperformbioanalyticaltechniques
3	Applycomprehensive innovations and skillsofbiomolecules to biotechnologyfield

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	24 Nov 2022	Introduction,sources				Lecture	
1	E	24 Nov 2022	Introduction, sources				Lecture	
2	P	25 Nov 2022	classificationofcarbohydrates,Structure				Lecture	
2	E	25 Nov 2022	classificationofcarbohydrates, Structure				Lecture	
3	P	1 Dec 2022	properties andfunction ofcarbohydrates, Monosaccharides – Isomerism and ring structure				Lecture	
3	E	1 Dec 2022	properties andfunctionofcarbohydrates, Monosaccharides – Isomerism and ring structure				Lecture	
4	P	2 Dec 2022	Sugar derivatives Oligosaccharides –SucroseandFructose Polysaccharides – Classification as homo and heteropolysaccharides, Homopolysaccharides - storagepolysaccharides(starchandglycogens tructure				Lecture	
4	E	2 Dec 2022	Sugar derivativesOligosaccharides –SucroseandFructosePolysaccharides – Classification as homo and heteropolysaccharides, Homopolysaccharides -storagepolysaccharides(starchandglycogen structure				Lecture	
5	P	8 Dec 2022	reaction,properties)				Lecture	
5	E	8 Dec 2022	reaction, properties)				Lecture	
6	P	9 Dec 2022	structuralpolysaccharides(celluloseandchitinstructure,properties)				Lecture	
6	E	9 Dec 2022	structuralpolysaccharides(celluloseandchitinstructure, properties)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
7	P	15 Dec 2022	Heteropolysaccharides-glycoproteins and proteoglycans				Lecture	
7	E	15 Dec 2022	Heteropolysaccharides-glycoproteins and proteoglycans				Lecture	
8	P	16 Dec 2022	Introduction, classification and structure of amino acids				Lecture	
8	E	16 Dec 2022	Introduction, classification and structure of amino acids				Lecture	
9	P	22 Dec 2022	Concept of – Zwitterion, isoelectricpoint				Lecture	
9	E	22 Dec 2022	Concept of – Zwitterion, isoelectricpoint				Lecture	
10	P	23 Dec 2022	pKvalues,Essentialandnonessentialaminoacids				Lecture	
10	E	23 Dec 2022	pKvalues, Essentialandnonessentialaminoacids				Lecture	
11	P	29 Dec 2022	Peptideandpeptide bond,classificationofproteinsbasedonstructureandfunction				Lecture	
11	E	29 Dec 2022	Peptideandpeptidebond, classificationofproteinsbasedonstructureandfunction				Lecture	
12	P	30 Dec 2022	Structuralorganizationofproteins[primary,secondary				Lecture	
12	E	19 Jan 2023	Structuralorganizationofproteins[primary, secondary				Lecture	
13	P	5 Jan 2023	tertiary andquaternary],Fibrousandglobularproteins				Lecture	
13	E	5 Jan 2023	tertiary andquaternary], Fibrousandglobularproteins				Lecture	
14	P	6 Jan 2023	Denaturationand renaturationofproteinssecondary (•, •) and tertiary structures				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
14	E	6 Jan 2023	Denaturationandrenaturationofproteinssecondary (•, •) and tertiary structures				Lecture	
Module 3								
15	P	2 Mar 2023	Waterandfatsolublevitamins,dietary sourceandbiologicalroleofvitamins				Lecture	
15	E	3 Feb 2023	Waterandfatsolublevitamins, dietary sourceandbiologicalroleofvitamins				Lecture	
16	P	3 Mar 2023	Deficiencymanifestationof vitamin A				Lecture	
16	E	3 Feb 2023	Deficiencymanifestationof vitamin A				Lecture	
17	P	9 Mar 2023	B				Lecture	
17	E	9 Feb 2023	B				Lecture	
18	P	10 Mar 2023	C				Lecture	
18	E	3 Feb 2023	C				Lecture	
19	P	16 Mar 2023	D				Lecture	
19	E	9 Feb 2023	D				Lecture	
20	P	17 Mar 2023	EandK				Lecture	
20	E	9 Feb 2023	EandK				Lecture	
21	P	17 Mar 2023	Structures of purines and pyrimidines				Lecture	
21	E	17 Feb 2023	Structures of purines and pyrimidines				Lecture	
22	P	17 Mar 2023	Structures of purines and pyrimidines				Lecture	
22	E	17 Feb 2023	Structures of purines and pyrimidines				Lecture	
23	P	17 Mar 2023	nucleosides				Lecture	
23	E	3 Feb 2023	nucleosides				Lecture	
24	P	17 Mar 2023	nucleotides in DNA				Lecture	
24	E	17 Feb 2023	nucleotides in DNA				Lecture	
25	P	17 Mar 2023	Classificationofhormonesbasedonchemicalnatureandmechanismofaction,Chemicalstructureandf unctionsofthefollowinghormones:Glucagon				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
25	E	17 Feb 2023	Classificationofhormonesbasedonchemicalnatureandmechanismofaction, Chemicalstructureandfunctionsofthefollowing hormones:Glucagon				Lecture	
26	P	17 Mar 2023	Cortisone				Lecture	
26	E	17 Feb 2023	Cortisone				Lecture	
27	P	17 Mar 2023	Epinephrine				Lecture	
27	E	17 Feb 2023	Epinephrine				Lecture	
28	P	17 Mar 2023	Testosteroneand Estradiol				Lecture	
28	E	17 Feb 2023	TestosteroneandEstradiol				Lecture	

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COURSE BOOK

Period of the Semester : **From** 21 Nov 2022 **To** 21 Mar 2023

Dept-Sem-Sec: BtMb-3-B, BtC-3-B

Subject with Code: BIOMOLECULES (BTH-301)

Time Slot

MON:	**TUE :** 13:30 - 14:30	**WED:** 14:30 - 15:30
THU :	**FRI :**	**SAT :**

Name of the Teacher : Dr Radha Dayanidhi

Lesson Plan & Execution	
Name of the Faculty	***Dr Radha Dayanidhi***
Dept-Sem-Sec	***BtMb-3-B, BtC-3-B***
Date of Commencement	***21 Nov 2022***
Last Working Day of Semester	***21 Mar 2023***
Source Material List	
Course Outcome List	

1	Acquireknowledgeabouttypesofbiomolecules,structure,andtheirfunctions
2	Willbeabletodemonstratetheskillstoperformbioanalyticaltechniques
3	Applycomprehensive innovations and skillsofbiomolecules to biotechnologyfield

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	22 Nov 2022	Introduction,sources				Lecture	
1	E	22 Nov 2022	Introduction, sources				Lecture	
2	P	23 Nov 2022	classificationofcarbohydrates,Structure				Lecture	
2	E	23 Nov 2022	classificationofcarbohydrates, Structure				Lecture	
3	P	29 Nov 2022	properties andfunction ofcarbohydrates, Monosaccharides – Isomerism and ring structure				Lecture	
3	E	29 Nov 2022	properties andfunctionofcarbohydrates, Monosaccharides – Isomerism and ring structure				Lecture	
4	P	30 Nov 2022	Sugar derivatives Oligosaccharides –SucroseandFructose Polysaccharides – Classification as homo and heteropolysaccharides, Homopolysaccharides - storagepolysaccharides(starchandglycogens tructure				Lecture	
4	E	30 Nov 2022	Sugar derivativesOligosaccharides –SucroseandFructosePolysaccharides – Classification as homo and heteropolysaccharides, Homopolysaccharides -storagepolysaccharides(starchandglycogen structure				Lecture	
5	P	6 Dec 2022	reaction,properties)				Lecture	
5	E	30 Nov 2022	reaction, properties)				Lecture	
6	P	7 Dec 2022	structuralpolysaccharides(celluloseandchitinstructure,properties)				Lecture	
6	E	14 Dec 2022	structuralpolysaccharides(celluloseandchitinstructure, properties)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
7	P	13 Dec 2022	Heteropolysaccharides-glycoproteins and proteoglycans				Lecture	
7	E	20 Dec 2022	Heteropolysaccharides-glycoproteins and proteoglycans				Lecture	
8	P	14 Dec 2022	Introduction, classification and structure of amino acids				Lecture	
8	E	28 Dec 2022	Introduction, classification and structure of amino acids				Lecture	
9	P	20 Dec 2022	Concept of – Zwitterion, isoelectricpoint				Lecture	
9	E	3 Jan 2023	Concept of – Zwitterion, isoelectricpoint				Lecture	
10	P	21 Dec 2022	pKvalues,Essentialandnonessentialaminoacids				Lecture	
10	E	4 Jan 2023	pKvalues, Essentialandnonessentialaminoacids				Lecture	
11	P	27 Dec 2022	Peptideandpeptide bond,classificationofproteinsbasedonstructureandfunction				Lecture	
11	E	10 Jan 2023	Peptideandpeptidebond, classificationofproteinsbasedonstructureandfunction				Lecture	
12	P	28 Dec 2022	Structuralorganizationofproteins[primary,secondary				Lecture	
12	E	18 Jan 2023	Structuralorganizationofproteins[primary, secondary				Lecture	
13	P	3 Jan 2023	tertiary andquaternary],Fibrousandglobularproteins				Lecture	
13	E	3 Jan 2023	tertiary andquaternary], Fibrousandglobularproteins				Lecture	
14	P	4 Jan 2023	Denaturationand renaturationofproteinssecondary (•, •) and tertiary structures				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
14	E	4 Jan 2023	Denaturationandrenaturationofproteinssecondary (•, •) and tertiary structures				Lecture	
Module 3								
15	P	10 Jan 2023	Waterandfatsolublevitamins,dietary sourceandbiologicalroleofvitamins				Lecture	
15	E	10 Jan 2023	Waterandfatsolublevitamins, dietary sourceandbiologicalroleofvitamins				Lecture	
16	P	11 Jan 2023	Deficiencymanifestationof vitamin A				Lecture	
16	E	11 Jan 2023	Deficiencymanifestationof vitamin A				Lecture	
17	P	17 Jan 2023	B				Lecture	
17	E	17 Jan 2023	B				Lecture	
18	P	18 Jan 2023	C				Lecture	
18	E	18 Jan 2023	C				Lecture	
19	P	24 Jan 2023	D				Lecture	
19	E	24 Jan 2023	D				Lecture	
20	P	25 Jan 2023	EandK				Lecture	
20	E	25 Jan 2023	EandK				Lecture	
21	P	31 Jan 2023	Structures of purines and pyrimidines				Lecture	
21	E	31 Jan 2023	Structures of purines and pyrimidines				Lecture	
22	P	1 Feb 2023	Structures of purines and pyrimidines				Lecture	
22	E	1 Feb 2023	Structures of purines and pyrimidines				Lecture	
23	P	7 Feb 2023	nucleosides				Lecture	
23	E	7 Feb 2023	nucleosides				Lecture	
24	P	8 Feb 2023	nucleotides in DNA				Lecture	
24	E	8 Feb 2023	nucleotides in DNA				Lecture	
25	P	14 Feb 2023	Classificationofhormonesbasedonchemicalnatureandmechanismofaction,Chemicalstructureandf unctionsofthefollowinghormones:Glucagon				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
25	E	14 Feb 2023	Classificationofhormonesbasedonchemicalnatureandmechanismofaction, Chemicalstructureandfunctionsofthefollowing hormones:Glucagon				Lecture	
26	P	15 Feb 2023	Cortisone				Lecture	
26	E	15 Feb 2023	Cortisone				Lecture	
27	P	21 Feb 2023	Epinephrine				Lecture	
27	E	21 Feb 2023	Epinephrine				Lecture	
28	P	22 Feb 2023	Testosteroneand Estradiol				Lecture	
28	E	22 Feb 2023	TestosteroneandEstradiol				Lecture	

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COURSE BOOK

Period of the Semester : **From** 14 Nov 2022 **To** 14 Mar 2023

Dept-Sem-Sec: MbGnBc-5-A

Subject with Code: BASIC HUMAN GENETICS (GNT-502)

Time Slot

MON:	**TUE :**	**WED:** 13:30 - 14:30
THU : 09:30 - 10:30	**FRI :** 09:30 - 10:30	**SAT :**

Name of the Teacher : Dr Ramakrishnaiah T N

Lesson Plan & Execution	
Name of the Faculty	***Dr Ramakrishnaiah T N***
Dept-Sem-Sec	***MbGnBc-5-A***
Date of Commencement	***14 Nov 2022***
Last Working Day of Semester	***14 Mar 2023***
Source Material List	
Course Outcome List	

1	HUMAN CHROMOSOMES
2	Immunology and Immunogenetics
3	Dermatoglyphics

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	16 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
1	E	16 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
2	P	17 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
2	E	17 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
3	P	18 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
3	E	18 Nov 2022	Normal Human Karyotype: Paris Nomenclature				Lecture	
4	P	23 Nov 2022	Flow karyotyping (Quantification of DNA of individual chromosomes) FACSFluorescence Activated Cell Sorter				Lecture	
4	E	23 Nov 2022	Flow karyotyping(Quantification of DNA of individual chromosomes) FACSFluorescence Activated Cell Sorter				Lecture	
5	P	24 Nov 2022	Flow karyotyping (Quantification of DNA of individual chromosomes) FACSFluorescence Activated Cell Sorter				Lecture	
5	E	24 Nov 2022	Flow karyotyping(Quantification of DNA of individual chromosomes) FACSFluorescence Activated Cell Sorter				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
6	P	25 Nov 2022	Autosomal inheritance- Dominant (Ex: Adult polycystic kidney; Achondroplasia and Neurofibromatosis), Autosomal inheritance- Recessive (Ex: Albinism; Sickle cell anaemia; Phenylketonuria)				Lecture	
6	E	25 Nov 2022	Autosomal inheritance- Dominant(Ex: Adult polycystic kidney; Achondroplasia andNeurofibromatosis), Autosomal inheritance- Recessive(Ex: Albinism; Sickle cell anaemia; Phenylketonuria)				Lecture	
7	P	30 Nov 2022	X-linked – Recessive: (Ex: Duchenne muscular dystrophy-DMD), X-linked-Dominant : (Ex: Xg blood group)				Lecture	
7	E	30 Nov 2022	X-linked – Recessive: (Ex: Duchenne muscular dystrophy-DMD), X-linked-Dominant : (Ex: Xg blood group)				Lecture	
8	P	1 Dec 2022	Y-linked inheritance : Holandric gene (Ex: Testes determining factor - TDF), Multifactorial inheritance : (Ex:Congenital malformations: Cleft lip and palate; Rheumatoid arthritis and Diabetes)				Lecture	
8	E	1 Dec 2022	Y-linked inheritance : Holandric gene (Ex: Testes determining factor - TDF), Multifactorial inheritance : (Ex:Congenital malformations: Cleft lip and palate; Rheumatoid arthritis and Diabetes)				Lecture	
9	P	2 Dec 2022	Mitochondrial diseases: (Ex: Leber ’s hereditary optic neuropathy)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
9	E	2 Dec 2022	Mitochondrial diseases: (Ex: Leber ’s hereditary optic neuropathy)				Lecture	
10	P	7 Dec 2022	Symbols used in pedigree studies				Lecture	
10	E	7 Dec 2022	Symbols used in pedigree studies				Lecture	
11	P	8 Dec 2022	Pedigree analysis and construction				Lecture	
11	E	8 Dec 2022	Pedigree analysis and construction				Lecture	
12	P	9 Dec 2022	Pedigree analysis for the inheritance pattern of genetic diseases				Lecture	
12	E	9 Dec 2022	Pedigree analysis for the inheritance pattern of genetic diseases				Lecture	
13	P	14 Dec 2022	Genetic Counselling- Stage 1: History and pedigree construction; Stage 2: Examination; Stage 3: Diagnosis; Stage 4: Counselling; Stage 5: Follow up				Lecture	
13	E	14 Dec 2022	Genetic Counselling-Stage 1: History and pedigree construction; Stage 2: Examination; Stage 3: Diagnosis; Stage 4: Counselling; Stage 5: Follow up				Lecture	
Module 2								
14	P	15 Dec 2022	Introduction to immunology- antigens, antibodies				Lecture	
14	E	15 Dec 2022	Introduction to immunology- antigens, antibodies				Lecture	
15	P	16 Dec 2022	B and T Cells Immunity- Innate and acquired, Immune response - Humoral and Cell mediated				Lecture	
15	E	16 Dec 2022	B and T CellsImmunity- Innate and acquired, Immune response - Humoral and Cell mediated				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
16	P	21 Dec 2022	Genetics of immune system – Antibody gene rearrangement and class switching, Inherited immunodeficiency- Ex: X-linked agammaglobulinaemia				Lecture	
16	E	21 Dec 2022	Genetics of immune system – Antibody gene rearrangement and classswitching, Inherited immunodeficiency- Ex: X-linked agammaglobulinaemia				Lecture	
17	P	22 Dec 2022	Major Histocompatibility Complex-Types				Lecture	
17	E	22 Dec 2022	Major Histocompatibility Complex-Types				Lecture	
18	P	23 Dec 2022	HLA disease associations				Lecture	
18	E	23 Dec 2022	HLA disease associations				Lecture	
19	P	28 Dec 2022	Transplantation				Lecture	
19	E	28 Dec 2022	Transplantation				Lecture	
20	P	29 Dec 2022	graft-rejection and immunosupressors Concept of immunization				Lecture	
20	E	29 Dec 2022	graft-rejection and immunosupressorsConcept of immunization				Lecture	
21	P	30 Dec 2022	A brief account of cancer-definition, types-Benign and Malignant; Sarcoma				Lecture	
21	E	30 Dec 2022	A brief account of cancer-definition, types-Benign and Malignant;Sarcoma				Lecture	
22	P	4 Jan 2023	Carcinoma, Lymphoma and Leukaemia				Lecture	
22	E	4 Jan 2023	Carcinoma, Lymphoma and Leukaemia				Lecture	
23	P	5 Jan 2023	Properties of malignant cells, Types of genes - Proto oncogenes				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
23	E	5 Jan 2023	Properties of malignant cells, Types of genes - Proto oncogenes				Lecture	
24	P	6 Jan 2023	Oncogenes, Difference between Vonc and C – onc oncogenes				Lecture	
24	E	6 Jan 2023	Oncogenes, Difference between Vonc and C – onc oncogenes				Lecture	
25	P	11 Jan 2023	Tumor Suppressor genes-p53, pRb				Lecture	
25	E	11 Jan 2023	Tumor Suppressor genes-p53, pRb				Lecture	
26	P	12 Jan 2023	Chromosomal abnormalities associated with the specific malignancies- Acute Promyelocytic Leukaemia(APL)				Lecture	
26	E	12 Jan 2023	Chromosomal abnormalities associated with the specificmalignancies- Acute Promyelocytic Leukaemia(APL)				Lecture	
27	P	13 Jan 2023	Chronic Myeloid Leukaemia(CML) and Acute lymphoblastic leukaemia (ALL)				Lecture	
27	E	13 Jan 2023	Chronic MyeloidLeukaemia(CML) and Acute lymphoblastic leukaemia (ALL)				Lecture	
Module 3								
28	P	18 Jan 2023	Introduction and Patterns, Dermatoglyphics in clinical disorders- Down ’s syndrome				Lecture	
28	E	18 Jan 2023	Introduction and Patterns, Dermatoglyphics in clinical disorders- Down ’s syndrome				Lecture	
29	P	19 Jan 2023	Turner ’s syndrome				Lecture	
29	E							
30	P	20 Jan 2023	Klinefelter ’s syndrome and Cri du chat syndrome				Lecture	
30	E							
31	P	25 Jan 2023	Clinical applications				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
31	E							
32	P	26 Jan 2023	Advantages and Limitations				Lecture	
32	E							
33	P	27 Jan 2023	Introduction and types Invasive Prenatal diagnosis - Amniocentesis				Lecture	
33	E							
34	P	1 Feb 2023	Introduction and types Invasive Prenatal diagnosis - Amniocentesis				Lecture	
34	E							
35	P	2 Feb 2023	Chorionic villus sampling				Lecture	
35	E							
36	P	3 Feb 2023	Non – Invasive Prenatal diagnosis – Ultrasonography				Lecture	
36	E							
37	P	8 Feb 2023	Eugenics: Positive and negative				Lecture	
37	E							
38	P	9 Feb 2023	Euthenics				Lecture	
38	E							
39	P	10 Feb 2023	Euphenics Human genome project – introduction and significance Gene therapy with reference to SCID Stem cells- Properties				Lecture	
39	E							
40	P	15 Feb 2023	types and sources: A brief account on Cord blood banking and Stem cell therapy				Lecture	
40	E							

M S Ramaiah College of Arts, Science and Commerce

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COURSE BOOK

Period of the Semester : **From** 24 Apr 2023 **To** 19 Aug 2023

Dept-Sem-Sec: MbGnBc-6-A

Subject with Code: DEVELOPMENTAL, EVOLUTIONARY AND BIOMETRICAL GENETICS (GNT 601)

Time Slot

MON:	**TUE :** 10:30 - 11:30	**WED:** 13:30 - 14:30
THU : 09:30 - 10:30	**FRI :**	**SAT :**

Name of the Teacher : Dr Ramakrishnaiah T N

Lesson Plan & Execution

Name of the Faculty	***Dr Ramakrishnaiah T N***
Dept-Sem-Sec	***MbGnBc-6-A***
Date of Commencement	***24 Apr 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

REF 1	Developmental biology by Scott.F.Gilbert. Sinauer Associates, Sunderland. 2000.
REF 2	Evolution - Stickberger, M. W (1990) Jones and Bartlett, Boston.
REF 3	Evolutionary Genetics by Maynard Smith J (1989), Oxford University press.
REF 4	Evolutionary Genetics by Maynard Smith J (1989), Oxford University press.
REF 5	Evolutionary Genetics by Maynard Smith J (1989), Oxford University press.
REF 6	Evolutionary Genetics by Maynard Smith J (1989), Oxford University press.
REF 7	Population Genetics and Quantitative Genetics by Mari selvi K. Kalyani Publications. 2008.
REF 8	Principles of Development by Lewis Wolpert et al. 5th Edition. oxford University press 2015.

Course Outcome List

1	Developmental Genetics

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	25 Apr 2023	Early embryonic development in Frog cleavage				Lecture	
1	E	25 Apr 2023	Early embryonic development in Frog cleavage				Lecture	
2	P	26 Apr 2023	Early embryonic development in Frog cleavage				Lecture	
2	E	26 Apr 2023	Early embryonic development in Frog cleavage				Lecture	
3	P	27 Apr 2023	blastula and gastrula				Lecture	
3	E	27 Apr 2023	blastula and gastrula				Lecture	
4	P	2 May 2023	blastula and gastrula				Lecture	
4	E	2 May 2023	blastula and gastrula				Lecture	
5	P	3 May 2023	Nuclear transplantation experiments in Amphibians and Acetabularia				Lecture	
5	E	3 May 2023	Nuclear transplantation experiments in Amphibians and Acetabularia				Lecture	
6	P	4 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	
6	E	4 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	
7	P	9 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	
7	E	9 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
8	P	10 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	
8	E	10 May 2023	Arabidopsis: Flower development (Floral morphogenesis and Homeotic gene expression)				Lecture	
9	P	11 May 2023	Drosophila: Early development; Origin of anterior-posterior and dorso-ventral polarity: Role of Maternal genes				Lecture	
9	E	11 May 2023	Drosophila: Early development; Origin of anterior-posterior and dorso-ventral polarity: Role of Maternal genes				Lecture	
10	P	16 May 2023	Zygotic genes- Segmentation genes (gap				Lecture	
10	E	16 May 2023	Zygotic genes- Segmentation genes (gap				Lecture	
11	P	17 May 2023	pair rule and segment polarity genes) and Homeotic selector genes				Lecture	
11	E	17 May 2023	pair rule and segment polarity genes) and Homeotic selector genes				Lecture	
12	P	18 May 2023	Ex Differential expression of haemoglobin				Lecture	
12	E	18 May 2023	Ex Differential expression of haemoglobin				Lecture	
13	P	23 May 2023	Ex Differential expression of haemoglobin				Lecture	
13	E	23 May 2023	Ex Differential expression of haemoglobin				Lecture	
14	P	24 May 2023	Ex Differential expression of haemoglobin				Lecture	
14	E	24 May 2023	Ex Differential expression of haemoglobin				Lecture	
Module 2								

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
15	P	25 May 2023	Darwinism, Neo Darwinism and Synthetic Theory				Lecture	
15	E	25 May 2023	Darwinism, Neo Darwinism and Synthetic Theory				Lecture	
16	P	30 May 2023	Evolution at molecular level: - Nucleotide sequence, Gene pool				Lecture	
16	E	30 May 2023	Evolution at molecular level: - Nucleotide sequence, Gene pool				Lecture	
17	P	31 May 2023	Gene and genotype frequencies: Hardy-Weinberg principle, Evolutionary agents: Selection – differential selection				Lecture	
17	E	31 May 2023	Gene and genotype frequencies: Hardy-Weinberg principle, Evolutionary agents: Selection – differential selection				Lecture	
18	P	1 Jun 2023	gametic selection, zygotic selection				Lecture	
18	E	1 Jun 2023	gametic selection, zygotic selection				Lecture	
19	P	6 Jun 2023	fitness; Migration; Mutation and Random drift, Speciation: Methods of speciation-Allopatric and Sympatric				Lecture	
19	E	6 Jun 2023	fitness; Migration; Mutation and Random drift, Speciation: Methods of speciation-Allopatric and Sympatric				Lecture	
20	P	7 Jun 2023	Isolation Pre-mating and Post mating isolating mechanisms				Lecture	
20	E	7 Jun 2023	Isolation Pre-mating and Post mating isolating mechanisms				Lecture	
21	P	8 Jun 2023	role of isolation in Speciation				Lecture	
21	E	8 Jun 2023	role of isolation in Speciation				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
22	P	13 Jun 2023	Quantitative Characters:-Types-Continuous, meristic and threshold characters with examples				Lecture	
22	E	13 Jun 2023	Quantitative Characters:-Types-Continuous, meristic and threshold characters with examples				Lecture	
23	P	14 Jun 2023	Quantitative inheritance:-Features of polygenic traits in relation to oligogenic traits				Lecture	
23	E	14 Jun 2023	Quantitative inheritance:-Features of polygenic traits in relation to oligogenic traits				Lecture	
24	P	15 Jun 2023	Inheritance of Kernel color in wheat				Lecture	
24	E	15 Jun 2023	Inheritance of Kernel color in wheat				Lecture	
25	P	20 Jun 2023	and Skin colour in human				Lecture	
25	E	20 Jun 2023	and Skin colour in human				Lecture	
26	P	21 Jun 2023	Transgressive inheritance in Poultry				Lecture	
26	E	21 Jun 2023	Transgressive inheritance in Poultry				Lecture	
27	P	22 Jun 2023	Environmental effects-IQ in Humans Significance of polygenic inheritance-Twin study				Lecture	
27	E	22 Jun 2023	Environmental effects-IQ in HumansSignificance of polygenic inheritance-Twin study				Lecture	
Module 3								
28	P	27 Jun 2023	An introduction to Correlation				Lecture	
28	E	27 Jun 2023	An introduction to Correlation				Lecture	
29	P	28 Jun 2023	An introduction to Correlation				Lecture	
29	E	28 Jun 2023	An introduction to Correlation				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
30	P	4 Jul 2023	Regression and ANOVA (Analysis of Variance) Genetic analysis of quantitative trait: - Ear length in Corn Variances in polygenic traits: - Phenotypic				Lecture	
30	E	4 Jul 2023	Regression and ANOVA (Analysis of Variance)Genetic analysis of quantitative trait: - Ear length in CornVariances in polygenic traits: - Phenotypic				Lecture	
31	P	5 Jul 2023	Regression and ANOVA (Analysis of Variance) Genetic analysis of quantitative trait: - Ear length in Corn Variances in polygenic traits: - Phenotypic				Lecture	
31	E	5 Jul 2023	Regression and ANOVA (Analysis of Variance)Genetic analysis of quantitative trait: - Ear length in CornVariances in polygenic traits: - Phenotypic				Lecture	
32	P	6 Jul 2023	genotypic				Lecture	
32	E	6 Jul 2023	genotypic				Lecture	
33	P	11 Jul 2023	genotypic				Lecture	
33	E	11 Jul 2023	genotypic				Lecture	
34	P	12 Jul 2023	environmental				Lecture	
34	E	12 Jul 2023	environmental				Lecture	
35	P	13 Jul 2023	environmental				Lecture	
35	E	13 Jul 2023	environmental				Lecture	
36	P	18 Jul 2023	additive				Lecture	
36	E	18 Jul 2023	additive				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
37	P	19 Jul 2023	dominance and Epistatic variance; Genotype and environmental interaction				Lecture	
37	E	19 Jul 2023	dominance and Epistatic variance; Genotype and environmental interaction				Lecture	
38	P	20 Jul 2023	Heritability: - Broad sense and Narrow sense heritability				Lecture	
38	E	20 Jul 2023	Heritability: - Broad sense and Narrow sense heritability				Lecture	
39	P	25 Jul 2023	Quantitative trait loci (QTL)				Lecture	
39	E							
40	P	26 Jul 2023	Problems related to Variance and Heritability				Lecture	
40	E							

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M S Ramaiah College of Arts, Science and Commerce

Bengaluru

COURSE BOOK

Period of the Semester : **From** 14 Nov 2022 **To** 14 Mar 2023

Dept-Sem-Sec: BtMbC-5-A

Subject with Code: ENVIRONMENTAL BIOTECHNOLOGY AND IMMUNOTECHNOLOGY (BTP-501)

Time Slot

MON: 10:30 - 11:30	**TUE :** 11:40 - 12:40	**WED:**
THU :	**FRI :**	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution	
Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-5-A***
Date of Commencement	***14 Nov 2022***
Last Working Day of Semester	***14 Mar 2023***
Source Material List	
Course Outcome List	
1	Environmental Biotechnology

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	14 Nov 2022	Renewable and Non-renewable sources of Energy, Conventional fuels and their environmental impact -firewood				Lecture	
1	E	14 Nov 2022	Renewable and Non-renewable sources of Energy, Conventional fuels and their environmental impact -firewood				Lecture	
2	P	15 Nov 2022	plant and coal, Modern fuels and their environmental impact				Lecture	
2	E	15 Nov 2022	plant and coal, Modern fuelsand their environmental impact				Lecture	
3	P	21 Nov 2022	Methanogenic bacteria in production of biogas				Lecture	
3	E	21 Nov 2022	Methanogenic bacteria in production of biogas				Lecture	
4	P	22 Nov 2022	Microbial hydrogen production				Lecture	
4	E	22 Nov 2022	Microbialhydrogen production				Lecture	
5	P	28 Nov 2022	conversion of sugars to alcohol and gasohol				Lecture	
5	E	28 Nov 2022	conversion of sugars to alcohol and gasohol				Lecture	
6	P	29 Nov 2022	Brief account of nitrogen cycle				Lecture	
6	E	29 Nov 2022	Brief account of nitrogen cycle				Lecture	
7	P	5 Dec 2022	Brief account of nitrogen cycle				Lecture	
7	E	5 Dec 2022	Brief account of nitrogen cycle				Lecture	
8	P	6 Dec 2022	Role of symbiotic and non- symbiotic nitrogen fixing bacteria in enrichment of soil (Rhizobium and Azotobocter)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
8	E	6 Dec 2022	Role of symbiotic and non- symbiotic nitrogen fixing bacteriain enrichment of soil (Rhizobium and Azotobocter)				Lecture	
9	P	12 Dec 2022	Algal and fungal biofertilizers (VAM and Trichoderma)				Lecture	
9	E	12 Dec 2022	Algal and fungal biofertilizers (VAM andTrichoderma)				Lecture	
10	P	13 Dec 2022	Vermi composting				Lecture	
10	E	13 Dec 2022	Vermi composting				Lecture	
11	P	19 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
11	E	19 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
12	P	20 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
12	E	20 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
13	P	26 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
13	E	26 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
14	P	27 Dec 2022	Treatment of municipal wastes and industrial effluents				Lecture	
14	E	27 Dec 2022	Treatment of municipal wastes and industrial effluents				Lecture	
15	P	2 Jan 2023	Treatment of municipal wastes and industrial effluents				Lecture	
15	E	2 Jan 2023	Treatment of municipal wastes and industrial effluents				Lecture	

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COURSE BOOK

Period of the Semester : **From** 14 Nov 2022 **To** 14 Mar 2023

Dept-Sem-Sec: BtMbC-5-B

Subject with Code: ENVIRONMENTAL BIOTECHNOLOGY AND IMMUNOTECHNOLOGY (BTP-501)

Time Slot

MON:	**TUE :**	**WED:**
THU : 10:30 - 11:30	**FRI :** 11:40 - 12:40	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution	
Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-5-B***
Date of Commencement	***14 Nov 2022***
Last Working Day of Semester	***14 Mar 2023***
Source Material List	
Course Outcome List	
1	Environmental Biotechnology

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	17 Nov 2022	Renewable and Non-renewable sources of Energy, Conventional fuels and their environmental impact -firewood				Lecture	
1	E	17 Nov 2022	Renewable and Non-renewable sources of Energy, Conventional fuels and their environmental impact -firewood				Lecture	
2	P	18 Nov 2022	plant and coal, Modern fuels and their environmental impact				Lecture	
2	E	18 Nov 2022	plant and coal, Modern fuelsand their environmental impact				Lecture	
3	P	24 Nov 2022	Methanogenic bacteria in production of biogas				Lecture	
3	E	24 Nov 2022	Methanogenic bacteria in production of biogas		CO 1		Lecture	
4	P	25 Nov 2022	Microbial hydrogen production				Lecture	
4	E	25 Nov 2022	Microbialhydrogen production				Lecture	
5	P	1 Dec 2022	conversion of sugars to alcohol and gasohol				Lecture	
5	E	1 Dec 2022	conversion of sugars to alcohol and gasohol				Lecture	
6	P	2 Dec 2022	Brief account of nitrogen cycle				Lecture	
6	E	2 Dec 2022	Brief account of nitrogen cycle				Lecture	
7	P	8 Dec 2022	Brief account of nitrogen cycle				Lecture	
7	E	8 Dec 2022	Brief account of nitrogen cycle				Lecture	
8	P	9 Dec 2022	Role of symbiotic and non- symbiotic nitrogen fixing bacteria in enrichment of soil (Rhizobium and Azotobocter)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
8	E	9 Dec 2022	Role of symbiotic and non- symbiotic nitrogen fixing bacteriain enrichment of soil (Rhizobium and Azotobocter)				Lecture	
9	P	15 Dec 2022	Algal and fungal biofertilizers (VAM and Trichoderma)				Lecture	
9	E	15 Dec 2022	Algal and fungal biofertilizers (VAM andTrichoderma)				Lecture	
10	P	16 Dec 2022	Vermi composting				Lecture	
10	E	16 Dec 2022	Vermi composting				Lecture	
11	P	22 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
11	E	22 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
12	P	23 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
12	E	23 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
13	P	29 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
13	E	29 Dec 2022	Biodegradation of lignin and cellulose				Lecture	
14	P	30 Dec 2022	Treatment of municipal wastes and industrial effluents				Lecture	
14	E	30 Dec 2022	Treatment of municipal wastes and industrial effluents				Lecture	
15	P	5 Jan 2023	Treatment of municipal wastes and industrial effluents				Lecture	
15	E	5 Jan 2023	Treatment of municipal wastes and industrial effluents				Lecture	

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COURSE BOOK

Period of the Semester : **From** 14 Nov 2022 **To** 14 Mar 2023

Dept-Sem-Sec: BtMbC-5-A

Subject with Code: PIANT AND ANIMAL BIOTECHNOLOGY (BTP-502)

Time Slot

MON:	**TUE :** 11:40 - 12:40	**WED:**
THU :	**FRI :**	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution	
Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-5-A***
Date of Commencement	***14 Nov 2022***
Last Working Day of Semester	***14 Mar 2023***
Source Material List	
Course Outcome List	

1	Understand the protoplast culture technique and its preservation.
2	Significance of Genetic engineering in edible vaccine production and cloning.
3	Importance of stem cells and production of transgenic animals

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 3								
1	P	15 Nov 2022	Protoplast culture, Protoplast isolation-mechanical and enzymatic methods				Lecture	
1	E	15 Nov 2022	Protoplast culture, Protoplast isolation-mechanical and enzymatic methods				Lecture	
2	P	22 Nov 2022	Culturing and regeneration of protoplasts				Lecture	
2	E	22 Nov 2022	Culturing andregeneration of protoplasts				Lecture	
3	P	29 Nov 2022	Protoplast fusion methods				Lecture	
3	E	29 Nov 2022	Protoplast fusion methods				Lecture	
4	P	6 Dec 2022	Selection of somatic hybrids and cybrids				Lecture	
4	E	6 Dec 2022	Selection of somatic hybrids andcybrids				Lecture	
5	P	13 Dec 2022	Cryopreservation of plant culture				Lecture	
5	E	13 Dec 2022	Cryopreservation of plant culture				Lecture	
6	P	13 Dec 2022	characteristic features				Lecture	
6	E	20 Dec 2022	muskmelon, Synthetic seed preparation and their applications				Lecture	
7	P	20 Dec 2022	muskmelon, Synthetic seed preparation and their applications				Lecture	
7	E	27 Dec 2022	Applications of micropropagation in forestry				Lecture	
8	P	27 Dec 2022	Applications of micropropagation in forestry				Lecture	
8	E	3 Jan 2023	lnvitro fertilization - nuclear transfer				Lecture	
9	P	3 Jan 2023	lnvitro fertilization - nuclear transfer				Lecture	
9	E	10 Jan 2023	ES methods				Lecture	
10	P	10 Jan 2023	ES methods				Lecture	
10	E	17 Jan 2023	Cloning of Dolly				Lecture	
11	P	17 Jan 2023	Cloning of Dolly				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
11	E	13 Dec 2022	characteristic features		CO 1		Lecture	
12	P	31 Jan 2023	types				Lecture	
12	E	20 Dec 2022	types				Lecture	
13	P	7 Feb 2023	culture and applications				Lecture	
13	E	27 Dec 2022	culture and applications				Lecture	
14	P	14 Feb 2023	Transgenic animals and their significance				Lecture	
14	E	3 Jan 2023	Transgenic animals andtheir significance				Lecture	
15	P	21 Feb 2023	Transgenic cattle and transgenic mice				Lecture	
15	E	3 Jan 2023	Transgenic cattle and transgenic mice				Lecture	

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COURSE BOOK

Period of the Semester : **From** 14 Nov 2022 **To** 14 Mar 2023

Dept-Sem-Sec: BtMbC-5-B

Subject with Code: PIANT AND ANIMAL BIOTECHNOLOGY (BTP-502)

Time Slot

MON:	**TUE :**	**WED:**
THU : 10:30 - 11:30	**FRI :** 11:40 - 12:40	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution	
Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-5-B***
Date of Commencement	***14 Nov 2022***
Last Working Day of Semester	***14 Mar 2023***
Source Material List	
Course Outcome List	

1	Understand the protoplast culture technique and its preservation.
2	Significance of Genetic engineering in edible vaccine production and cloning.
3	Importance of stem cells and production of transgenic animals

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 3								
1	P	2 Feb 2023	Protoplast culture, Protoplast isolation-mechanical and enzymatic methods				Lecture	
1	E	2 Feb 2023	Protoplast culture, Protoplast isolation-mechanical and enzymatic methods				Lecture	
2	P	3 Feb 2023	Culturing and regeneration of protoplasts				Lecture	
2	E	3 Feb 2023	Culturing andregeneration of protoplasts				Lecture	
3	P	9 Feb 2023	Protoplast fusion methods				Lecture	
3	E	9 Feb 2023	Protoplast fusion methods				Lecture	
4	P	10 Feb 2023	Selection of somatic hybrids and cybrids				Lecture	
4	E	10 Feb 2023	Selection of somatic hybrids andcybrids				Lecture	
5	P	16 Feb 2023	Cryopreservation of plant culture				Lecture	
5	E	16 Feb 2023	Cryopreservation of plant culture				Lecture	
6	P	17 Feb 2023	muskmelon, Synthetic seed preparation and their applications				Lecture	
6	E	17 Feb 2023	muskmelon, Synthetic seed preparation and their applications				Lecture	
7	P	23 Feb 2023	Applications of micropropagation in forestry				Lecture	
7	E	23 Feb 2023	Applications of micropropagation in forestry				Lecture	
8	P	24 Feb 2023	lnvitro fertilization - nuclear transfer				Lecture	
8	E	24 Feb 2023	lnvitro fertilization - nuclear transfer				Lecture	
9	P	2 Mar 2023	ES methods				Lecture	
9	E	2 Mar 2023	ES methods				Lecture	
10	P	3 Mar 2023	Cloning of Dolly				Lecture	
10	E	3 Mar 2023	Cloning of Dolly				Lecture	
11	P	9 Mar 2023	characteristic features				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
11	E	16 Dec 2022	characteristic features		CO 3		Lecture	
12	P	10 Mar 2023	types				Lecture	
12	E	23 Dec 2022	types				Lecture	
13	P	10 Mar 2023	culture and applications				Lecture	
13	E	30 Dec 2022	culture and applications				Lecture	
14	P	10 Mar 2023	Transgenic animals and their significance				Lecture	
14	E	6 Jan 2023	Transgenic animals andtheir significance				Lecture	
15	P	10 Mar 2023	Transgenic cattle and transgenic mice				Lecture	
15	E	6 Jan 2023	Transgenic cattle and transgenic mice				Lecture	

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COURSE BOOK

Period of the Semester : **From** 24 Apr 2023 **To** 19 Aug 2023

Dept-Sem-Sec: BtMbC-6-B

Subject with Code: BIOTECHNOLOGY PAPER VIII, BIOINFORMATICS, BIO ENTREPRENEURSHIP AND BIORESEARCH (BTP 602T)

Time Slot

MON:	**TUE :**	**WED:**
THU : 10:30 - 23:30	**FRI :** 11:40 - 12:40	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution

Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-6-B***
Date of Commencement	***24 Apr 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

REF 1	Dubey R, C,, A Text Book of Biotechnology, S Chand Publicatins,
REF 2	Kumaresan V, Biotechnology (6th Edition), Saras Publication,
REF 3	Ramavat K, G, Shaily Goyal, Comprehensive Biotechnology(4th Revised Editon), S Chand & Co
REF 4	Gladis Helen Hepsyba & Hemalatha C,R, Basic Bioinformatics, MJP Publishers,
REF 5	Sundaralingam R, & Kuaresan V, Bioinformatics, Saras Publication

Course Outcome List

1	To understand the Basics of Computers and databases
2	To learn the tools of bioinformatics
3	Comprehend and Understand IPR And Bioethics
4	To understand the scope of Entrepreneurship

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 2								
1	P	27 Apr 2023	Biotechnology and lPR, Patents, Trade secrets, copyright, Trade Mark and geographical index, Choice of lPR, Plant genetics resource (PGR), GAAT, TRIPS and examples of IPR in lndia				Lecture	
1	E	27 Apr 2023	Biotechnology and lPR, Patents, Trade secrets, copyright, Trade Mark and geographical index, Choice of lPR, Plant genetics resource (PGR), GAAT, TRIPS and examples of IPR in lndia		CO 1		Lecture	
2	P	28 Apr 2023	Bioethics , positive and negative effects, Examples, Rice with Vitamin A, no,till agriculture, Biological pest control, Ban on Glyphosate GM plants and environmental concerns, Biodiversity regulations in lndia				Lecture	
2	E	28 Apr 2023	Bioethics, positive and negative effects, Examples, Rice with Vitamin A, no, till agriculture, Biological pest control, Ban on Glyphosate GM plants and environmental concerns, Biodiversity regulations in lndia		CO 2		Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
3	P	4 May 2023	Bio entrepreneurship lntroduction and scope, Types of bio,industries, Basic requirements and challenges of an entrepreneur, Entrepreneurship development programs of public and private agencies,MsME, DBT, BIRAC and Make in lndia, Negotiating the road from lab to the market , Strategies and processes of negotiation with financiers, government and regulatory agencies				Lecture	
3	E	4 May 2023	Bio entrepreneurship lntroduction and scope, Types of bio, industries, Basic requirements and challenges of an entrepreneur, Entrepreneurship development programs of public and private agencies, MsME, DBT, BIRAC and Make in lndia, Negotiating the road from lab to the market, Strategies and processes of negotiation with financiers, government and regulatory agencies		CO 2		Lecture	
Module 3								

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
4	P	5 May 2023	lntroduction and importance of research in biology, Objectives, motivation and types of research, Significance of research, Major biological research institutes in lndia , llSc, NCBS, CCMB, ICMR, IBAB, NlV, Serum lnstitute, JNCASR & lARl, Major biotech companies in lndia and world and their products				Lecture	
4	E	5 May 2023	lntroduction and importance of research in biology, Objectives, motivation and types of research, Significance of research, Major biological research institutes in lndia, llSc, NCBS, CCMB, ICMR, IBAB, NlV, Serum lnstitute, JNCASR & lARl, Major biotech companies in lndia and world and their products		CO 4		Lecture	
5	P	11 May 2023	Research problem identification and formulation, Necessity of a research design, features of a good research design and experimental design, Data preparation, data analysis and data interpretat				Lecture	
5	E	11 May 2023	Research problem identification and formulation, Necessity of a research design, features of a good research design and experimental design, Data preparation, data analysis and data interpretat		CO 4		Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
6	P	12 May 2023	Research Paper and Project writing , Layout of a research paper, Use of encyclopaedias, research guides and handbooks, Publication, lmpact factor for Journals and Plagiarism, Basic skills of project writing, lmportance of documentat				Lecture	
6	E	12 May 2023	Research Paper and Project writing, Layout of a research paper, Use of encyclopaedias, research guides and handbooks, Publication, lmpact factor for Journals and Plagiarism, Basic skills of project writing, lmportance of documentat		CO 5		Lecture	

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COURSE BOOK

Period of the Semester : **From** 24 Apr 2023 **To** 19 Aug 2023

Dept-Sem-Sec: BtMbC-6-A

Subject with Code: BIOTECHNOLOGY PAPER VIII, BIOINFORMATICS, BIO ENTREPRENEURSHIP AND BIORESEARCH (BTP 602T)

Time Slot

MON: 10:30 - 11:30	**TUE :** 11:40 - 12:40	**WED:**
THU :	**FRI :**	**SAT :**

Name of the Teacher : Dr Vinutha M

Lesson Plan & Execution

Name of the Faculty	***Dr Vinutha M***
Dept-Sem-Sec	***BtMbC-6-A***
Date of Commencement	***24 Apr 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

REF 1	Dubey R, C,, A Text Book of Biotechnology, S Chand Publicatins,
REF 2	Kumaresan V, Biotechnology (6th Edition), Saras Publication,
REF 3	Ramavat K, G, Shaily Goyal, Comprehensive Biotechnology(4th Revised Editon), S Chand & Co
REF 4	Gladis Helen Hepsyba & Hemalatha C,R, Basic Bioinformatics, MJP Publishers,
REF 5	Sundaralingam R, & Kuaresan V, Bioinformatics, Saras Publication

Course Outcome List

1	To understand the Basics of Computers and databases
2	To learn the tools of bioinformatics
3	Comprehend and Understand IPR And Bioethics
4	To understand the scope of Entrepreneurship

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 2								
1	P	2 May 2023	Biotechnology and lPR, Patents				Lecture	
1	E	2 May 2023	Biotechnology and lPR, Patents				Lecture	
2	P	8 May 2023	Trade secrets, copyright				Lecture	
2	E	8 May 2023	Trade secrets, copyright				Lecture	
3	P	9 May 2023	Trade Mark and geographical index, Choice of lPR				Lecture	
3	E	9 May 2023	Trade Mark and geographical index, Choice of lPR				Lecture	
4	P	15 May 2023	Plant genetics resource (PGR), GAAT				Lecture	
4	E	15 May 2023	Plant genetics resource (PGR), GAAT				Lecture	
5	P	16 May 2023	TRIPS and examples of IPR in lndia				Lecture	
5	E	16 May 2023	TRIPS and examples of IPR in lndia				Lecture	
6	P	22 May 2023	Bioethics , positive and negative effects				Lecture	
6	E	22 May 2023	Bioethics, positive and negative effects				Lecture	
7	P	23 May 2023	Examples, Rice with Vitamin A				Lecture	
7	E	23 May 2023	Examples, Rice with Vitamin A				Lecture	
8	P	29 May 2023	no,till agriculture				Lecture	
8	E	29 May 2023	no, till agriculture				Lecture	
9	P	30 May 2023	Biological pest control, Ban on Glyphosate GM plants and environmental concerns				Lecture	
9	E	30 May 2023	Biological pest control, Ban on Glyphosate GM plants and environmental concerns				Lecture	
10	P	5 Jun 2023	Biodiversity regulations in lndia				Lecture	
10	E	5 Jun 2023	Biodiversity regulations in lndia				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
11	P	6 Jun 2023	Bio entrepreneurship lntroduction and scope, Types of bio,industries				Lecture	
11	E	6 Jun 2023	Bio entrepreneurship lntroduction and scope, Types of bio, industries				Lecture	
12	P	12 Jun 2023	Basic requirements and challenges of an entrepreneur, Entrepreneurship development programs of public and private agencies				Lecture	
12	E	12 Jun 2023	Basic requirements and challenges of an entrepreneur, Entrepreneurship development programs of public and private agencies				Lecture	
13	P	13 Jun 2023	MsME, DBT				Lecture	
13	E	13 Jun 2023	MsME, DBT				Lecture	
14	P	13 Jun 2023	BIRAC and Make in lndia, Negotiating the road from lab to the market				Lecture	
14	E	13 Jun 2023	BIRAC and Make in lndia, Negotiating the road from lab to the market				Lecture	
15	P	13 Jun 2023	Strategies and processes of negotiation with financiers, government and regulatory agencies				Lecture	
15	E	19 Jun 2023	Strategies and processes of negotiation with financiers, government and regulatory agencies				Lecture	
Module 3								

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
16	P	19 Jun 2023	lntroduction and importance of research in biology, Objectives, motivation and types of research, Significance of research, Major biological research institutes in lndia , llSc, NCBS, CCMB, ICMR, IBAB, NlV, Serum lnstitute, JNCASR & lARl, Major biotech companies in lndia and world and their products				Lecture	
16	E	19 Jun 2023	lntroduction and importance of research in biology, Objectives, motivation and types of research, Significance of research, Major biological research institutes in lndia, llSc, NCBS, CCMB, ICMR, IBAB, NlV, Serum lnstitute, JNCASR & lARl, Major biotech companies in lndia and world and their products				Lecture	

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COURSE BOOK

Period of the Semester : **From** 8 May 2023 **To** 19 Aug 2023

Dept-Sem-Sec: MbGn-4-C

Subject with Code: HUMAN GENETICS AND GENETIC COUNSELLING (DSCC5GENT4)

Time Slot

MON:	**TUE :** 13:30 - 14:30	**WED:** 10:30 - 11:30 13:30 - 14:30
THU : 13:30 - 14:30	**FRI :**	**SAT :**

Name of the Teacher : Dr Beaulah Angel P

Lesson Plan & Execution

Name of the Faculty	***Dr Beaulah Angel P***
Dept-Sem-Sec	***MbGn-4-C***
Date of Commencement	***8 May 2023***
Last Working Day of Semester	***19 Aug 2023***

Source Material List

REF 1	Basic Human Genetics by EJ, Manage and A,P, Manage (1997 India Reprint) a Rastogi Publications, Meerut,
REF 2	Emery ’s Elements of Medical Genetics, Peter Turnpenny, SlanEllard 15th Edition, 2017,
REF 3	Essentials of Human Genetics by S,M, Bhatnagaretal (1999) IV edition, Orient Longman,
REF 4	Genetic basis of common diseases by R, A, King et al, Oxford University Press 2002,
REF 5	Genetics in Medicine by M,W, Thompson et al, 5 Edition, W,B, Sounders Company, London 1996,
REF 6	Human Cytogenetics, Denise Rooney Oxford University Press, 2001,
REF 7	Human Genetics – Bruce,R,Korf, 2000
REF 8	Human Genetics, Concepts and Applications by Lewis R (2001) McGrawHi, Boston,
REF 9	Human Genetics by S,D, Gangane (2nd Edition,Reprint 2001), B,L Churchill Livingstone Pvt, Ltd,, New Delhi,
REF 10	Medical Genetics, Lynn Jorde John CareyMichael Bamshad, 2015,
REF 11	Mendelian inheritance in Man by,Mc, Kusick V,A, (1998), 12 Edition, John Hopsins University Press,
REF 12	Molecular Basis of Inherited Diseases, (6th Edition,1989) by Scriver, C,R, A,L, Beudit, W,S, Styabnd D, Valle (Eds) Mc Graw Hill, New York,

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	9 May 2023	Normal Human Karyotype				Lecture	
1	E	9 May 2023	Normal Human Karyotype				Lecture	
2	P	10 May 2023	Normal Human Karyotype				Lecture	
2	E	10 May 2023	Normal Human Karyotype				Lecture	
3	P	10 May 2023	Paris Nomenclature				Lecture	
3	E	10 May 2023	Paris Nomenclature				Lecture	
4	P	11 May 2023	Paris Nomenclature				Lecture	
4	E	11 May 2023	Paris Nomenclature				Lecture	
5	P	16 May 2023	Flow karyotyping				Lecture	
5	E	16 May 2023	Flow karyotyping				Lecture	
6	P	17 May 2023	FACS				Lecture	
6	E	17 May 2023	FACS				Lecture	
7	P	17 May 2023	Fluorescence Activated Cell Sorter				Lecture	
7	E	17 May 2023	Fluorescence Activated Cell Sorter				Lecture	
8	P	18 May 2023	Autosomal inheritance, Dominant (Eg Adult polycystic kidney and Neurofibromatosis) Autosomal inheritance, Recessive (Eg, Albinism				Lecture	
8	E	18 May 2023	Autosomal inheritance, Dominant (Eg Adult polycystic kidney and Neurofibromatosis) Autosomal inheritance, Recessive (Eg, Albinism				Lecture	
9	P	23 May 2023	Sickle cell anemia) X,linked – Recessive, (Eg				Lecture	
9	E	23 May 2023	Sickle cell anemia) X, linked – Recessive, (Eg				Lecture	
10	P	24 May 2023	Duchene muscular dystrophy) X,linked Dominant, (Eg				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
10	E	24 May 2023	Duchene muscular dystrophy) X, linked Dominant, (Eg				Lecture	
11	P	24 May 2023	Hypophosphatemia) Y,linked inheritance, Holandric gene (E				Lecture	
11	E	24 May 2023	Hypophosphatemia) Y, linked inheritance, Holandric gene (E				Lecture	
12	P	25 May 2023	g, Testes determining factor , TDF) Multifactorial inheritance				Lecture	
12	E	25 May 2023	g, Testes determining factor, TDF) Multifactorial inheritance				Lecture	
13	P	30 May 2023	(Eg, Congenital malformations, Cleft lip and palate				Lecture	
13	E	30 May 2023	(Eg, Congenital malformations, Cleft lip and palate				Lecture	
14	P	31 May 2023	Rheumatoid arthritis and Diabetes) Mitochondrial diseases, (Eg, Leber ’s hereditary optic neuropathy)				Lecture	
14	E	31 May 2023	Rheumatoid arthritis and Diabetes) Mitochondrial diseases, (Eg, Leber ’s hereditary optic neuropathy)				Lecture	
Module 2								
15	P	31 May 2023	Introduction to immunology, types and properties of antigens				Lecture	
15	E	31 May 2023	Introduction to immunology, types and properties of antigens				Lecture	
16	P	31 May 2023	antibodies, B and T Cells				Lecture	
16	E	31 May 2023	antibodies, B and T Cells				Lecture	
17	P	1 Jun 2023	Immunity types				Lecture	
17	E	1 Jun 2023	Immunity types				Lecture	
18	P	6 Jun 2023	Innate and acquired				Lecture	
18	E	6 Jun 2023	Innate and acquired				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
19	P	7 Jun 2023	Immune response				Lecture	
19	E	7 Jun 2023	Immune response				Lecture	
20	P	7 Jun 2023	Humoral and Cell mediated				Lecture	
20	E	7 Jun 2023	Humoral and Cell mediated				Lecture	
21	P	8 Jun 2023	Genetics of immune system, antibody gene rearrangement and class switching				Lecture	
21	E	8 Jun 2023	Genetics of immune system, antibody gene rearrangement and class switching				Lecture	
22	P	13 Jun 2023	Inherited immunodeficiency, Ex				Lecture	
22	E	13 Jun 2023	Inherited immunodeficiency, Ex				Lecture	
23	P	14 Jun 2023	X				Lecture	
23	E	14 Jun 2023	X				Lecture	
24	P	14 Jun 2023	linked agammaglobulinaemia				Lecture	
24	E	14 Jun 2023	linked agammaglobulinaemia				Lecture	
25	P	15 Jun 2023	Major Histocompatibility Complex, Types				Lecture	
25	E	15 Jun 2023	Major Histocompatibility Complex, Types				Lecture	
26	P	20 Jun 2023	HLA disease associations, Transplantation				Lecture	
26	E	20 Jun 2023	HLA disease associations, Transplantation				Lecture	
27	P	21 Jun 2023	graft				Lecture	
27	E	21 Jun 2023	graft				Lecture	
28	P	21 Jun 2023	rejection and immunosupressors Concept of immunization				Lecture	
28	E	21 Jun 2023	rejection and immunosupressors Concept of immunization				Lecture	
Module 3								

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
29	P	27 Jun 2023	a) Indications for prenatal diagnosis, Methods				Lecture	
29	E	27 Jun 2023	a) Indications for prenatal diagnosis, Methods				Lecture	
30	P	28 Jun 2023	Noninvasive method Ultrasonography and Fetal echocardiography				Lecture	
30	E	28 Jun 2023	Noninvasive method Ultrasonography and Fetal echocardiography				Lecture	
31	P	28 Jun 2023	Invasive methods				Lecture	
31	E	28 Jun 2023	Invasive methods				Lecture	
32	P	4 Jul 2023	Amniocentesis				Lecture	
32	E	4 Jul 2023	Amniocentesis				Lecture	
33	P	5 Jul 2023	Chorionic villus sampling				Lecture	
33	E	5 Jul 2023	Chorionic villus sampling				Lecture	
34	P	5 Jul 2023	Pre				Lecture	
34	E	5 Jul 2023	Pre				Lecture	
35	P	6 Jul 2023	conception and pre				Lecture	
35	E	6 Jul 2023	conception and pre				Lecture	
36	P	11 Jul 2023	implantation genetic diagnosis				Lecture	
36	E	11 Jul 2023	implantation genetic diagnosis				Lecture	
37	P	12 Jul 2023	Teratogen exposure in early pregnancy				Lecture	
37	E	12 Jul 2023	Teratogen exposure in early pregnancy				Lecture	
38	P	12 Jul 2023	Genetic testing and screening				Lecture	
38	E	12 Jul 2023	Genetic testing and screening				Lecture	
39	P	13 Jul 2023	b) Gene therapy with reference to SCID Stem cells				Lecture	
39	E	13 Jul 2023	b) Gene therapy with reference to SCID Stem cells				Lecture	
40	P	18 Jul 2023	Properties				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
40	E	18 Jul 2023	Properties				Lecture	
41	P	19 Jul 2023	types and sources				Lecture	
41	E	19 Jul 2023	types and sources				Lecture	
42	P	19 Jul 2023	Cord blood banking and Stem cell therapy				Lecture	
42	E	19 Jul 2023	Cord blood banking and Stem cell therapy				Lecture	
Module 4								
43	P	20 Jul 2023	a) Symbols used in pedigree studies, Pedigree construction and analysis				Lecture	
43	E	20 Jul 2023	a) Symbols used in pedigree studies, Pedigree construction and analysis				Lecture	
44	P	25 Jul 2023	Pedigree analysis for the inheritance pattern of genetic diseases				Lecture	
44	E	25 Jul 2023	Pedigree analysis for the inheritance pattern of genetic diseases				Lecture	
45	P	26 Jul 2023	b) Genetic Counseling				Lecture	
45	E	26 Jul 2023	b) Genetic Counseling				Lecture	
46	P	26 Jul 2023	•Introduction to Genetic counseling				Lecture	
46	E	26 Jul 2023	•Introduction to Genetic counseling				Lecture	
47	P	27 Jul 2023	Historical over view				Lecture	
47	E	27 Jul 2023	Historical over view				Lecture	
48	P	1 Aug 2023	Stage of counseling				Lecture	
48	E	1 Aug 2023	Stage of counseling				Lecture	
49	P	2 Aug 2023	scope of Genetic counselling				Lecture	
49	E	2 Aug 2023	scope of Genetic counselling				Lecture	
50	P	2 Aug 2023	c) Roles and responsibilities of Counselor and Consultant				Lecture	

Period	Plan/ Execution	Date	Topic	Source material to be referred	Course Outcome	Bloom's Level	Execution Methods	Learning Validation Method
50	E	2 Aug 2023	c) Roles and responsibilities of Counselor and Consultant				Lecture	
51	P	3 Aug 2023	needs				Lecture	
51	E	3 Aug 2023	needs				Lecture	
52	P	8 Aug 2023	rights				Lecture	
52	E	8 Aug 2023	rights				Lecture	
53	P	9 Aug 2023	Ethical				Lecture	
53	E	9 Aug 2023	Ethical				Lecture	
54	P	9 Aug 2023	legal and social issues (ELSI)				Lecture	
54	E	9 Aug 2023	legal and social issues (ELSI)				Lecture	
55	P	10 Aug 2023	Acts and Amendments				Lecture	
55	E	10 Aug 2023	Acts and Amendments				Lecture	

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COURSE BOOK

Period of the Semester : **From** 2 Jan 2023 **To** 29 Apr 2023

Dept-Sem-Sec: BT-1-A

Subject with Code: GENERAL MICROBIOLOGY (BTH103)

Time Slot

MON: 09:30 - 10:30	**TUE :** 11:40 - 12:40	**WED:**
THU : 09:30 - 10:30	**FRI :** 10:30 - 11:30	**SAT :**

Name of the Teacher : Dr Muktha H

Lesson Plan & Execution

Name of the Faculty	***Dr Muktha H***
Dept-Sem-Sec	***BT-1-A***
Date of Commencement	***2 Jan 2023***
Last Working Day of Semester	***29 Apr 2023***

Source Material List

REF 1	Microbiology by MJ Pelczar Jr, ECS Chan, NR Krieg 5th Edition, Pub: Tata Mcgra-Hill Publishing Co Ltd.
REF 2	Introductory Microbiology by Heritage Pub Heritage
REF 3	General Microbiology by Stainer Pub; Ingraham and Wheeler (McMillan)
REF 4	Alexander M (1977) Introduction to soil microbiology, John Wiley and Sons Inc.N.Y.
REF 5	Atlas R.M. (1998) Microbiology, Fundamentals and applications 2 nd Edition, Milan Publishing Co.
REF 6	Brock T.D. and Madigan M.T (1992) Biology of Microorganisms 6 th Edn. Prentice Hall, Eagle wood cliffs N.j.
REF 7	Holt J.S. Kreig N.R., Sneath P.H.A and Williams S.T (1994) Bergey •s Manual of Systemic Bacteriology 9th Edn. William and Wilkins, Baltimore.
REF 8	Prescott L.M, Harley T.P and Klein D.A. (1996) Microbiology WMC. Brown publishers

Course Outcome List

1	To understand the System of Classification and Techniques in Microbiology.
2	To study the general properties, structure, and reproduction of Prokaryotic microorganisms.
3	To study the general properties, structure, and reproduction of Eukaryotic microorganisms.
4	To study the structure, characteristics and diseases caused by Acellular entities

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
Module 1								
1	P	6 Jan 2023	Three domain system of classification, Phylogenetic Relationships				Lecture	
1	E	6 Jan 2023	Three domain system of classification, Phylogenetic Relationships				Lecture	
2	P	9 Jan 2023	Code for bacterial nomenclature and taxonomy, Criteria for microbial classification-morphological				Lecture	
2	E	9 Jan 2023	Code for bacterialnomenclature and taxonomy, Criteria for microbial classification-morphological				Lecture	
3	P	10 Jan 2023	staining techniques, biochemical methods				Lecture	
3	E	10 Jan 2023	staining techniques, biochemical methods				Lecture	
4	P	12 Jan 2023	serological techniques, phage typing				Lecture	
4	E	12 Jan 2023	serological techniques, phage typing				Lecture	
5	P	13 Jan 2023	fatty acid profiles, Flow cytometry				Lecture	
5	E	13 Jan 2023	fatty acid profiles, Flow cytometry				Lecture	
6	P	16 Jan 2023	DNA base composition, DNA fingerprinting				Lecture	
6	E	16 Jan 2023	DNA base composition, DNA fingerprinting				Lecture	
7	P	17 Jan 2023	rRNA sequence, Nucleic acid hybridization				Lecture	
7	E	17 Jan 2023	rRNA sequence, Nucleic acid hybridization				Lecture	
8	P	19 Jan 2023	Numerical Taxonomy, Chemotaxonomy				Lecture	
8	E	19 Jan 2023	Numerical Taxonomy, Chemotaxonomy				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
9	P	20 Jan 2023	Classification of bacteria according to Bergey •s Manual of systematic Bacteriology, Dichotomous keys				Lecture	
9	E	20 Jan 2023	Classification of bacteria according to Bergey •s Manual of systematic Bacteriology, Dichotomous keys				Lecture	
10	P	23 Jan 2023	Cladograms				Lecture	
10	E	23 Jan 2023	Cladograms				Lecture	
11	P	24 Jan 2023	dendrograms				Lecture	
11	E	24 Jan 2023	dendrograms				Lecture	
12	P	27 Jan 2023	universal phylogenetic tree				Lecture	
12	E	27 Jan 2023	universal phylogenetic tree				Lecture	
Module 2								
13	P	30 Jan 2023	Domain Bacteria: Proteobacteria (Alpha, Beta				Lecture	
13	E	30 Jan 2023	Domain Bacteria: Proteobacteria (Alpha, Beta				Lecture	
14	P	31 Jan 2023	Gamma, Delta and Epsilon Proteobacteria)				Lecture	
14	E	31 Jan 2023	Gamma, Delta and Epsilon Proteobacteria)				Lecture	
15	P	2 Feb 2023	Cyanobacteria, Chlorobium				Lecture	
15	E	2 Feb 2023	Cyanobacteria, Chlorobium				Lecture	
16	P	3 Feb 2023	Firmicutes, Actinobacteria				Lecture	
16	E	3 Feb 2023	Firmicutes, Actinobacteria				Lecture	
17	P	6 Feb 2023	Chlamydiae				Lecture	
17	E	6 Feb 2023	Chlamydiae				Lecture	
18	P	7 Feb 2023	Spirochaetes				Lecture	
18	E	7 Feb 2023	Spirochaetes				Lecture	
19	P	9 Feb 2023	Bacteroidetes				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
19	E	9 Feb 2023	Bacteroidetes				Lecture	
20	P	10 Feb 2023	Fusobacteria				Lecture	
20	E	10 Feb 2023	Fusobacteria				Lecture	
21	P	13 Feb 2023	Domain Archea: Crenarchaeota				Lecture	
21	E	13 Feb 2023	Domain Archea: Crenarchaeota				Lecture	
22	P	14 Feb 2023	Euryarchaeota				Lecture	
22	E	14 Feb 2023	Euryarchaeota				Lecture	
Module 3								
23	P	16 Feb 2023	Fungi (Saccharomyces)				Lecture	
23	E	16 Feb 2023	Fungi (Saccharomyces)				Lecture	
24	P	17 Feb 2023	Fungi (Saccharomyces)				Lecture	
24	E	17 Feb 2023	Fungi (Saccharomyces)				Lecture	
25	P	20 Feb 2023	Algae (Spirulina)				Lecture	
25	E	20 Feb 2023	Algae (Spirulina)				Lecture	
26	P	21 Feb 2023	Algae (Spirulina)				Lecture	
26	E	21 Feb 2023	Algae (Spirulina)				Lecture	
27	P	23 Feb 2023	Protozoa (Plasmodium)				Lecture	
27	E	23 Feb 2023	Protozoa (Plasmodium)				Lecture	
28	P	24 Feb 2023	Protozoa (Plasmodium)				Lecture	
28	E	24 Feb 2023	Protozoa (Plasmodium)				Lecture	
29	P	27 Feb 2023	Slime molds (Physarum)				Lecture	
29	E	27 Feb 2023	Slime molds (Physarum)				Lecture	
30	P	28 Feb 2023	Slime molds (Physarum)				Lecture	
30	E	28 Feb 2023	Slime molds (Physarum)				Lecture	
Module 4								
31	P	2 Mar 2023	General characters, Structure				Lecture	
31	E	2 Mar 2023	General characters, Structure				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
32	P	3 Mar 2023	Criteria for classification of Viruses, Viruses that affect humans				Lecture	
32	E	3 Mar 2023	Criteria for classification of Viruses, Viruses that affect humans				Lecture	
33	P	6 Mar 2023	animals and plants				Lecture	
33	E	6 Mar 2023	animals and plants				Lecture	
34	P	7 Mar 2023	Isolation				Lecture	
34	E	7 Mar 2023	Isolation				Lecture	
35	P	9 Mar 2023	cultivation and identification of Viruses (Growing in Bacteria				Lecture	
35	E	9 Mar 2023	cultivation and identification of Viruses (Growing in Bacteria				Lecture	
36	P	10 Mar 2023	Living Animals				Lecture	
36	E	10 Mar 2023	Living Animals				Lecture	
37	P	13 Mar 2023	embryonated eggs				Lecture	
37	E	16 Mar 2023	embryonated eggs				Lecture	
38	P	14 Mar 2023	Cell Cultures)				Lecture	
38	E	16 Mar 2023	Cell Cultures)				Lecture	
39	P	16 Mar 2023	Viral Multiplication (Lytic and lysogenic life cycle)				Lecture	
39	E	16 Mar 2023	Viral Multiplication (Lytic and lysogenic life cycle)				Lecture	
40	P	17 Mar 2023	Virioids and Prions - General properties and diseases caused by virioids and prions				Lecture	
40	E	17 Mar 2023	Virioids and Prions - General properties and diseases caused by virioids and prions				Lecture	
Module 5								

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
41	P	20 Mar 2023	Physical parameters (Temperature, pH, Osmotic Pressure), Chemical parameters (Carbon				Lecture	
41	E	17 Mar 2023	Physical parameters (Temperature, pH, Osmotic Pressure), Chemical parameters (Carbon				Lecture	
42	P	21 Mar 2023	Nitrogen, Phosphorous, Sulphur, Trace elements				Lecture	
42	E	21 Mar 2023	Nitrogen, Phosphorous, Sulphur, Trace elements				Lecture	
43	P	23 Mar 2023	oxygen), Growth factors, Culture Media, Phases of Growth				Lecture	
43	E	23 Mar 2023	oxygen), Growth factors, Culture Media, Phases of Growth				Lecture	
44	P	24 Mar 2023	Growth Measurements, Microbial growth control -Physical methods (Heat, Pasteurization, Filtration				Lecture	
44	E	24 Mar 2023	Growth Measurements, Microbial growth control -Physical methods (Heat, Pasteurization, Filtration				Lecture	
45	P	27 Mar 2023	Radiation, Dessication, Low Temperature, High Pressure				Lecture	
45	E	27 Mar 2023	Radiation, Dessication, Low Temperature, High Pressure				Lecture	
46	P	28 Mar 2023	Osmotic Pressure) and Chemical Methods (Phenols, Halogens, Alcohols, quaternary ammonium compounds)				Lecture	

Period	*Plan/ Execution*	*Date*	*Topic*	*Source material to be referred*	*Course Outcome*	*Bloom's Level*	*Execution Methods*	*Learning Validation Method*
46	E	28 Mar 2023	Osmotic Pressure) and Chemical Methods (Phenols, Halogens, Alcohols, quaternary ammonium compounds)				Lecture	
Module 6								
47	P	30 Mar 2023	Isolation and cultivation of microorganisms from Water				Lecture	
47	E	30 Mar 2023	Isolation and cultivation of microorganisms from Water				Lecture	
48	P	31 Mar 2023	Soil				Lecture	
48	E	31 Mar 2023	Soil				Lecture	
49	P	3 Apr 2023	Air				Lecture	
49	E	3 Apr 2023	Air				Lecture	
50	P	4 Apr 2023	Rhizoshere				Lecture	
50	E	4 Apr 2023	Rhizoshere				Lecture	
51	P	6 Apr 2023	Phyllosphere and Mycorrhiza				Lecture	
51	E	6 Apr 2023	Phyllosphere and Mycorrhiza				Lecture	
52	P	7 Apr 2023	Biogeochemical cycle				Lecture	
52	E	7 Apr 2023	Biogeochemical cycle				Lecture	

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