

Lesson Plan - B.Sc (ENGLISH)
LANGUAGE SKILLS COMPILSORY COURSE-II
Semester-II
SCHEME OF EXAMINATION

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 Hours

Course Content:

Month: April 2021

- Our Civilization + Translation from English to Hindi
- It's Question Time

Month: May 2021

- An Interview with Christiaan Barnard
- Untouchability and the Caste System + Precis Writing

Month: June 2021

- In humanisation of War
- Seven Types of Gender Inequality + Letter Writing

Month: July 2021

- Revision

42

Head

Department of English

(Signature)
Principal
Department of English
ALWAR

Lesson Plan - BCA (ENGLISH)

Semester II

COMMUNICATION SKILLS AND PERSONALITY DEVELOPMENT

SCHEME OF EXAMINATION

Maximum Marks: 100

Minimum Passing Marks: 40

External: 70

Internal: 30

Time: 3 Hours

Course Content:

Month: April 2021

UNIT-I

Personality: Definition, Elements, Determinants. Personal Grooming: Personal Hygiene, Social Effectiveness, Business Etiquettes (Power Dressing)

Month: May 2021

UNIT-II Body Language: Non-Verbal Communication. Types of Body Language, Functions of Body, Language Role of Body Language, Proxemics. Art of Good Communication: Verbal & Non-Verbal Communication. Difference between Oral and Written Communication, 7 Cs of Effective Communication, Importance of Effective Communication.

Month: June 2021

UNIT-III

Team: Team Behaviour, Types of Teams, Team Roles & Behaviour. Group Discussion: Do's & don't.

UNIT-IV Interview Preparation: Introduction. Resume Writing, Dress Code, Mock- Interview, how to be successful in an Interview.

Month: July 2021: Revision

42

**Head
Department of English**

Dr. Jyoti S. Patil
Date: 10/07/2021
U.S.S.R

Lesson Plan – BAMC (ENGLISH)
Semester II
BAMC-109 LANGUAGE OF MEDIA-II (English)

Theory Marks: 80

Internal Assessment: 20

Time: 3 Hrs

Course Content:

Month: April 2021

Unit I

Growth of English Language in India

Grammar- Noun, Adjective, Active and Passive voice

Punctuation marks, Plural forms, practice of Spellings, Practising Tenses

Month: May 2021

Unit II: Essentials of good writing, Effective News Writing-7C's, Telephonic Conversation

Writing invitations to functions; replies to invitations.

Month: June 2021

Unit III : Forms of writing: News stories, letters, essays, news, articles, features book/film reviews Unit-IV

Writing headlines:

Language and

grammar components

Report Writing, writing memos, travelogues

Writing for the Web Portal

Month: July 2021: Revision

42
Head
Department of English

B. A. III (Hons.) English

Semester-VI

SCHEME OF EXAMINATION

ENGH 304: Modern British Literature-II

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 hour

Course Content:

Month: April - May 2021 Unit

I

1. T. S. Eliot: "The Love Song of J. Alfred Prufrock" "Portrait of a Lady" (From TS Eliot: Selected Poems, Faber)

Month: June 2021

Unit II

2. Aldous Huxley: Brave New World

Month: July 2021

Revision

YR

Head

Department of English

11/05/21
Page 22
Dayana T. 034
HIS 11

B.A. III (Hons.) English
Semester-VI

SCHEME OF EXAMINATION

ENGH 305: Indian Writing in English-II

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 hours

Course Content:

Month: April- May 2021

Unit I Kamala Das:

"The Sunshine Cat", "A Hot Noon in Malabar",

"The Freaks", "My Grandmother's House" (From R. Parthasarthy Ed. Ten Twentieth Century Indian Poets)

Month: June 2021

Unit II

R. K. Narayan: The Financial Expert

Month: July 2021

Revision

YR

Head
Department of English

Principal
Dayanand College
BELAN

B. A. III (Hons.) English

Semester VI

Scheme of Examination

ENGH 306: Modern World Literature-II

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20

Time: 3 hours

Course Content:

Month: April 2021 Unit

I: Short Fiction:

a. Albert Camus: "The Guest"

b. Nikolai Gogol: "The Greatcoat"

Month: May 2021

Unit II: Short Fiction

c. Gabriel Garcia Marquez: The Handsomest Man in the World: A Tale for Children"

d. Nadine Gordimer: Once Upon a [All from Texts and their Worlds in Time]"

Month: June 2021

Unit III: Novel

Chinua Achebe: Things Fall Apart (New Delhi: Allied)

Month: July 2021: Revision

YR

**Head
Department of English**

*Yr
Principal
Davangudi College
HSAR*

B. A. I (Hons.) English

Semester II

Paper III: ENGH 103: Literature in English (1660-1750)

Max. Marks: 100 marks

End Semester Exam: 80 marks

Internal Assessment: 20 marks Time: 3 hours Course Content:

Month: April 2021

Unit-I

John Dryden: MacFlecknoe

Month: May 2021

Unit-II

A. Pope: An Epistle to Dr Arbuthnot

Month: June 2021

Unit-III

Jonathan Swift: A Modest Proposal

Unit - IV

Literary Terms and Major Literary Movements of the period.

Month: July 2021

Revision

42

Head

Department of English

Dayanand College
HISAR

Lesson Plan - B.A.I (Hons.) English

Semester II

Paper-IV: ENGH 104: Literature in English (1660-1750)

SCHEME OF EXAMINATION

Max. Marks: 100

End Semester Exam: 80 marks

Internal Assessment: 20 marks

Time: 3 hours

Course Content:

Month: April 2021

Unit-I

Richard Sheridan: The School for Scandal

Month: May 2021

Unit-II

Joseph Addison: "The Aim of the Spectator

"The Spectator's Account of Himself "Character of Will Wimble "Female Orators".

"Fans"

Month: June 2021

Unit-III

Richard Steele: "Of the Club"

"Sir Roger's Ancestors" "On the Shame and Fear of Poverty

Unit - IV

Major Literary Works of the period by Major writers as discussed in History of English Literature by William J. Long.

Month: July 2021: Revision

42

**Head
Department of English**

Paper A: ENGH 204: Literature in English (1830-1900)

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 hours

Course Content:

Month: April 2021

Unit - I

Lord Tennyson:

"Break, Break, Break," "Ulysses," "The lady of Shallot," "The Lotus-Eaters," "Tears, Idle Tears"

Month: May 2021

Unit-II

Matthew Arnold "Dover Beach," "Memorial Verses," "Shakespeare," "To Marguerite,"

"Life and Thought" (From Fifteen Poets)

Month: June 2021

Unit-III

Robert Browning

"Porphyria's Lover," "My Last Duchess" "Rabbi Ben Ems" (From Fifteen Poets)

Unit-IV

Major Literary Movements and Trade of the period.

Month: July 2021: Revision

42

Head

Department of English

PAPER B ENGH 205: Literature in English (1830-1900)

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 hours

Course Content:

Month: April 2021

Unit-I

Charles Dickens: A Tale of Two Cities

Month: May 2021

Unit-II : Thomas Hardy: Jude the Obscure

Month: June 2021

Unit-III

Robert Browning: "Porphyria's Lover" "My Last Duchess" "Rabbi Ben Ezra"

(From Fifteen Poets)

Unit-IV

Major literary Works and Writers of the period:

Robert Browning D.G. Rossetti

John Ruskin

Benjamin Disraeli

18. Mill the French Revolution by Thomas Carlyle

The Rubiyat of Omar Khayam

The Jungle Book Sherlock Holmes

Time Machine

Month: July 2021: Revision

42

Head

Department of English

PAPER-C ENGH 206: Grammar and Contemporary English Usage

Max. Marks 100

End Semester Exam 80

Internal Assessment 20 Time 3 hours Course Content:

Month: April 2021

Unit-1

Précis

Month: May 2021

Unit-II

Translation and Paragraph

Month: June 2021

Unit-III

Grammar:

(1) Phrasal verbs with be, do, make, come, bring, keep and let.

(a) Mood and modality.

(i) Conjunctions: Coordinating and subordinating.

(iv) Types of Sentences; Simple, Complex and Compound with particular reference to Noun, Relative, Conditional and Coordinate Clauses.

Voices and Narration

Month: July 2021

Revision

YR

Head

Department of English

Dayan

2021

Lesson Plan - B.A. (FUNCTIONAL ENGLISH)

SEMESTER-II

Max Marks 100

End Semester Exam 60

Practical 20

(Oral/Viva)

Internal Assessment 20

Time 3 Hours

Course Content:

Month: April 2021

1. Word-Accent
2. Accent and Rhythm in Connected Speech
3. Intonation: Tune I & II (with reference to short and simple sentences only)
4. Phonemic Transcription Simple Words in Common Use in IPA symbols (as used Oxford Advanced Learner's Dictionary).

Month: May-June 2021

1. Difficulties with Comparatives and Superlatives
2. Confusion of Participles Active and Passive Voice
3. The Prop. Word On
4. Prepositions
5. Redundant Pronouns and Preposition.
6. The Use of Correlatives.
7. Use of Who, Whom, Much, Many, Still & Yet, So That, So As, Make and Do.
8. Errors in the use of individual words, the courtesy words: Please & Thank you, Dates and Time, Greetings and Salutations. Intensive practice exercises in all the above topics.

Month: July 2021: Revision

42

Head

Department of English

Principal
Department of English
HISAR

Lesson Plan - BA II (FUNCTIONAL ENGLISH) Semester-IV

Max Marks: 100 marks

End Semester Exam: 70 marks

Practical: 20 marks

(Field Work & Practical
Training and Viva)

Internal Assessment: 10 marks

Time: 3 hours Course Contents:

Month: April 2021

Unit-I Introducing Communication:

i) Nature and objectives of communication

ii) Process of communication iii) Principles
of effective communication

iv) Barriers to communication: Wrong choice of medium, physical barriers, semantic barriers,
sociopsychological barriers

Month: May 2021

Unit-II Non-verbal Communication:

i) Body language, appearance, voice, facial expression, posture and gestures ii)

Functions of non-verbal communication

Unit-III Communication through mass media: Basic understanding of role of information
technology and media: Newspapers, radio, television, computers, internet and multimedia.

Month: June-July 2021

Unit-IV English in Situations:

Greetings, Receiving and Seeing people off, making complaints, Making an appointment

Buying at shops, placing orders, offering apologies, consulting a doctor, making enquiries,
Conversation on telephone, Asking the time: Time expression, In the post-office, At the
bank, At the customs, At the airport, At the travel agency, booking a room in a hotel,
buying guidebook, At the temple, At the police Station At a dinner party, Hiring a taxi, At
the stock exchange, At the chemist, At the Restaurant Description of events.

(Students shall develop dialogue-based paragraphs on the above-mentioned situations)

YR

Head

Department of English

Principal
Department of English
H. S. S. S.

Lesson Plan - BA III (Functional English)

Semester-VI

Paper-VI

Theory Marks: 70

Practical/Oral Exam. /Viva: 20

Internal Assessment: 10

Time: 3 hours

Course Content:

Month: April 2021 Unit-1

Independent reading of reports from business and finances Papers, reports on company performance, market surveys project Reports, reports of achievements in the world of business by Well-known business personalities, comparative progress of various Enterprises, etc.

Month: May 2021

Unit-II

Summarization of main ideas of business reports; using the vocabulary from business reports and consulting the Business English Dictionary.

Month: June 2021

Unit-III

Essay (dealing with current affairs/business world/descriptive).

Unit-IV

Précis Writing

Month: July 2021

Revision

YR

Head
Department of English

Department of English
Lesson Plan - B.A. (Compulsory)
Semester-II
SCHEME OF EXAMINATION

Max. Marks 100.

End Semester Exam 80

Internal Assessment 20

Time 3 Hours

Course Content:

Month: April 2021

1. Pigeons at Daybreak + Extended Grammar
2. With the Photographer + Extended Grammar

Month: May 2021

- 3 The Journey + Extended Grammar
4. The Refugee + Extended Grammar
5. Bellows for the Bullock: A Haryanvi folk Tale + Extended Grammar

Month: June 2021

6. Panchlight + Extended Grammar
7. The Child + Extended Grammar

Month: July 2021

8. The Blind Dog + Extended Grammar
9. Revision

42
Head
Department of English

Principal
Department of English
HISAR

Semester-IV
SCHEME OF EXAMINATION

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 Hours

Course Content:

Month: April 2021

1. Spoken English + Extended Grammar
2. The Envoy + Extended Grammar

Month: May 2021

3. The Swan Song + Extended Grammar
4. The Monkey's Paw + Extended Grammar

Month: June 2021

5. Before Breakfast + Extended Grammar
6. The Sleepwalkers + Extended Grammar
7. Translation + Extended Grammar

Month: July 2021

8. Revision

4R

Head
Department of English

V
Principal
Dayanand College
BIDAR

Semester-VI
SCHEME OF EXAMINATION

Max. Marks 100

End Semester Exam 80

Internal Assessment 20

Time 3 Hours

Course Content:

Month: April 2021

Introduction to syllabus

Types of Drama

Introduction to Play and the playwright : 'The Merchant of Venice' Act 1 Complete

Month: May 2021

'The Merchant of Venice' Act 2 and Act 3 Complete

Developing Composition Skills

a) Reading and Comprehension

b) Precis Writing

Month: June 2021

'The Merchant of Venice' Act 4 & Act 5

c) Abstracting

d) Summarising

e) Paraphrasing

f) Correspondence

Month: July 2021

One-word Substitution : Revision

42

Head
Department of English

Principal
Diyana College
816412

Lesson Plan - M.A. (PREVIOUS) ENGLISH

SECOND SEMESTER

COURSE-

Max. Marks: 100

VIII: LITERATURE IN ENGLISH: 1798-1914 (Part-II)

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: April 2021

Unit-I Robert Browning : "Evelyn Hope", "Love Among the Ruins",

"My Last Duchess", "The Last Ride Together",

"A Grammarian's Funeral", "Porphyria's Lover",

"Rabbi Ben Ezra", "Meeting at Night", "The Lost Mistress"

Month: May 2021

Unit-II:

Thomas Hardy Tess of d'Urbervilles.

Month: June 2021

Unit-III:

Bernard Shaw: Arms and the Man.

Unit-IV

Gustav Flaubert: Madame Bovary.

Month: July 2021 :Revision

YR

**Head
Department of English**

Dr. [Signature]
[Signature]
[Signature]

IX: LITERATURE IN ENGLISH: 1914-2000 (PART

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: April 2021

Unit-I Nissim Ezekiel: "Night of the Scorpion", "Goodbye Party for Miss Pushpa TS", "The Patriot", "The Visitor", "Poet, Lover, Birdwatcher", "Enterprise", "Philosophy", "Background, Casually", "Poem of Separation".

Month: May 2021

Unit-II:

R.K. Narayan: The Guide

Month: June 2021

Unit-III:

Arthur Miller: Death of a Salesman

Unit-IV:

Albert Camus: The Outsider

Month: July 2021

Revision

YR

Head
Department of English

**M.A. (PREVIOUS) ENGLISH SECOND SEMESTER VI: LITERATURE IN
ENGLISH: 1550-1660**

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: April 2021

Unit-I.

William Shakespeare: Hamlet

Month: May 2021

Unit-II John Donne: The following poems from The Metaphysical Poets ed.

Helen Gardner (Penguin) is prescribed:

"The Flea", "The Good Morrow", "Song: Go and Catch a

Falling Star", "The Sun Rising", "The Canonization", A

Valediction: Forbidding Mourning", "The Extasie", "Batter My

Heart: Three Person' d God", "Love's Growth", "Since she whome

I lov'd, hath payd her last debt".

Month: June 2021

Unit-III:

John Webster The Duchess of Malfi

Unit-IV

Francis Bacon: "Of Unity in Religion", "Of Simulation and

Dissimulation", "Of Friendship", "Of Ambition",

"Of Great Place", "Of Studies", "Of Truth",

"Of Nature in Men", "Of Love", "Of Parents and Children".

Month: July 2021 Revision

YR

Head

Department of English

Principal
Dayanidhi
21/5/2021

VII: LITERATURE IN ENGLISH: 1660-1798

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: April 2021

Unit 4

Daniel Defoe: Robinson Crusoe.

Month: May 2021

Unit-11

Henry Fielding: Tom Jones

Month: June 2021

Unit-III:

(i) Joseph Addison: "The Aims of the Spectator", "Paradise Lost", "Sir Roger at the Assizes".

(ii) **Richard Steele: The Spectator's Club", "Duelling" Unit-V:**

Samuel Johnson: "The Vanity of Human Wishes", "London"

Month: July 2021

Revision

42

Head

Department of English

Dayton, Tenn. 37203

M.A. (FINAL) ENGLISH
FOURTH SEMESTER
COURSE-XVI: Critical Theory (PART-II)

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: April 2021

Unit-I

William Wordsworth: Preface to Lyrical Ballads

Month: May 2021

Unit-II

Matthew Arnold: Selections from Essays in Criticism

1. "The Function of Criticism at the Present Time"

2. "The Study of Poetry"

3. "John Keats"

Unit-III

(i) Virginia Woolf: "Modern Fiction"

(ii) T.S. Eliot: "Tradition and the Individual Talent"

(iii) I.A. Richards: Chapters XXVII and XXVIII of Principles of Literary Criticism ("Levels of Response and the Width of Appeal" and "The Allusiveness of Modern Poetry")

Month: June 2021

Unit-IV

(i) Saussure: "The Object of Study"

(ii) Elaine Showalter: "Feminist Criticism in Wilderness"

(iii) M.H. Abrams: "The Deconstructive Angel"

Month: July 2021

Revision

42
Head
Department of English

LESSON PLAN - M.A. (FINAL) ENGLISH

FOURTH SEMESTER

COURSE-XVII: American Literature (Part-II)

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: April 2021

Unit-1

Robert Frost:

**"Provide Provide", "Mending Wall", "The Road Not Taken", "Two Tramps in Mud Time",
"Stopping By Woods on a Snowy Evening", "Birches", "The Onset", "After Apple Picking"**

Month: May 2021

Unit-II

Ernest Hemingway: The Sun Also Rises

Month: June 2021

Unit-III

Eugene O'Neill: The Hairy Ape

Unit-IV

Tennessee Williams: A Streetcar Named Desire

Month: July 2021

Revision

YR

**Head
Department of English**

Day

LESSON PLAN - M.A. (FINAL) ENGLISH
FOURTH SEMESTER

COURSE-XVIII: Indian Writing in English (Part-II)

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: April 2021

Unit-I

Khushwant Singh: Train to Pakistan

Month: May 2021

Unit-II

Anita Desai: Voices in the City

Month: June 2021

Unit-III

Vijay Tendulkar: Silence! The Court is in Session

Unit-IV

S. Radhakrishnan: The Hindu View of Life

Month: July 2021

Revision

42

Head
Department of English

LESSON PLAN - M.A. (FINAL) ENGLISH
FOURTH SEMESTER

COURSE-XIX (Option ii): English Language (Part-II)

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: April 2021

Unit-1 Study of Clauses: Nature and composition of Clauses vis-à-vis Phrases and compound sentences, subordinate and coordinate clauses and their formation by subordinate and coordinating conjunctions, composition, uses and function of Relative clauses, Noun clauses and Adverbial clauses.

Month: May 2021

Unit-1 (a) Figures of Speech: Simile, Metaphor, Symbolism, Foregrounding, Style as Deviance, Personification, Alliteration, Metre, Imagery, Parallelism.

(b) Critical Appreciation : (i) Critical analysis of a short poem(ii) Critical analysis of a prose text.

Month: June 2021

Unit-III

ELT in India: A brief history, Role of English, Nature and approaches of Methods Problems and Perspectives

Unit-IV Methods and Materials: Grammar-Translation Method, Direct Method, Audio-Lingual Method, Communicative Language Teaching, Devising Pedagogic exercises according to the principles of a method.

Month: July 2021

Revision

42

Head
Department of English

Date: _____
Signature: _____
Name: _____

LESSON PLAN - M.A. (FINAL) ENGLISH
FOURTH SEMESTER

42

Head
Department of English

Day
Date

LESSON PLAN M.A. (FINAL) ENGLISH
FOURTH SEMESTER
COURSE-XX: (Option-I) Literature and Gender (Part-II)

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: April 2021

Unit-I

Simone de Beauvoir: The Second Sex (Only the following sections are prescribed:

"Introduction", "Book One", "Part-VII of Book Two")

Month: May 2021

Unit-II

Toni Morrison: Beloved

Month: June 2021

Unit-III

Alice Walker: The Color Purple

Unit-IV

Shashi Deshpande: That Long Silence

Month: July 2021

Revision

YR

Head
Department of English

**Lesson Plan - M.A. (PREVIOUS) ENGLISH FIRST
SEMESTER -1)**

COURSE 1: LITERATURE IN ENGLISH: 1550 1660 (Part

Max. Marks: 100

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: August 2021

Unit-I

Philip Sidney:

The following Sonnets from Astrophel and Stella are prescribed "Vertue alas, now let me take some rest "Not at first sight, nor with a dribbed shot". It is most true, that eyes are formed to serve", "Reason, in faith thou art well serv'd, that still", "Alas have I not paine enough my friend" "Your words my friend (right healthful Causticks) blame, "This night while sleepe begins with heavy Wings", "Stells oft sees the Verie face of Wo", "No more, my dear, no more these Counsels trie". "Desire, though my old Companion art

Month: September-October 2021

Unit-II

John Donne:

The following poems from The Metaphysical Poets ed Helen Gardner (Penguin) are prescribed: "The Flea" "The Good Morrow" "Song: Go and Catch a Falling Star", "The Sun Rising" "The Canonization", "A Valediction Forbidding Mourning", "The Extasie", "Batter My Heart Three Person' d God".

Unit-III

John Milton: Paradise Lost, Book-I

Month: November-December 2021

Unit-IV

William Shakespeare: Twelfth Night

Month: January-February 2022

Revision

42
Head
Department of English

**Lesson Plan - M.A. (PREVIOUS) ENGLISH FIRST
SEMESTER -1)**

COURSE-II: LITERATURE IN ENGLISH: 1660 1798 (Part

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hour Course Content:

Month: August 2021

Unit-I

John Dryden Absalom and Achitophel

Month: September-October 2021

Unit-II

Alexander Pope: The Rape of the Lock.

Month: November-December 2021

Unit-III

William Congreve: The Way of the world

Unit-IV

Richard Sheridan: The School for Scandal

Month: January-February 2022

Revision

42

**Head
Department of English**

Dr. J. K. Singh
Principal
D. J. S. College
M. S. S. S.

**Lesson Plan - M.A. (PREVIOUS) ENGLISH FIRST
SEMESTER -1)**

Max. Marks: 100

COURSE-III: LITERATURE IN ENGLISH: 1798 1914 (Part

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: August 2021

Unit-I

William Wordsworth

"To the Cuckoo", "The Solitary Reaper", "Daffodils", "Tintern Abbey", "Ode on Intimations of Immortality", "Lucy Gray", "Simon Lee, The old Huntsman", "The Tables Turned".

Unit-II

John Keats

"On First Looking into Chapman's Homer", "When I have Fears that I may Cease to Be", "Ode to a Nightingale", "Ode on a Grecian Urn", "Ode on Melancholy", "To Autumn", "To Psyche".

Month: September-October 2021

Unit-III

Charles Dickens: Oliver Twist

Month: November-December 2021

Unit-IV

George Eliot: The Mill on the Floss

Month: January-February 2022: Revision

YR

Head

Department of English

Day

Course IV: LITERATURE IN ENGLISH: 1914 2000

End Semester Exam: 80

Internal Assessment: 20

Time: 3 Hours

Course Content:

Month: August 2021

Unit I:

TS Eliot: The Waste Land

Month: September-October 2021

Unit II:

Philip Larkin:

"No Road", Poetry of Departures, "Going, Going", "Deceptions", "Next Please",

"If My Darling", "Reasons for Attendance"

"Wedding Wind", "Church Going", "The Old Fools"

"Church Going", "Whitsun Weddings"

Unit III:

Kingsley Amis: Lucky Jim

Month: November-December 2021

Unit IV:

EM. Forster: A Passage to India

Month: January-February 2022: Revision

42
Head

Department of English

Dr. J. S. Srinivas
Dr. J. S. Srinivas
Dr. J. S. Srinivas
Dr. J. S. Srinivas

M.A. (PREVIOUS) ENGLISH
FIRST SEMESTER
COURSE-V: STUDY OF A GENRE (OPTION-1) FICTION (PART -1)

End Semester Exam: 80

Internal Assessment: 20 Time: 3 Hours Course Content:

Month: August 2021

Unit-I

E.M. Forster: Aspects of the Novel

Unit-II

Jane Austen: Pride and Prejudice

Month: September-October 2021

Unit-III

Nathaniel Hawthorne: The Scarlet Letter


Month: November-December 2021

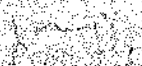
Unit-IV

James Joyce: A Portrait of the Artist as a Young Man

Month: January-February 2022

Revision


Head
Department of English

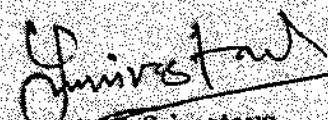

Dr. M. J. Joseph
Head

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020- 2021)
Semester- IV (B. Sc. -II)
Submitted By: Dr. Akhul
BTE-011: Immunology

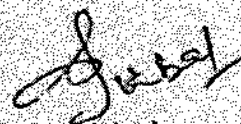
Sr. No.	Month	Topics
1	5 April 2021	Course outcomes discussion.
2	6 April 2021 to 10 April 2021	Immunology: Introduction, History and Scope. Terminology of immune system Immunity: Cells and Organs of the Immune System Haematopoiesis, B and T cells (types and receptors), Null cells, Monocytes, Polymorphs, Primary and Secondary Lymphoid organs- Thymus, Spleen, Lymph nodes, MALT, GALT, BALT.
3	11 April 2021	Sunday
4	12 April 2021 to 17 April 2021	Innate and Adaptive Immunity: Definition, types of Immunity- Innate, Adaptive/acquired (active, passive, natural/artificial, Humoral and Cell mediated immunity)
5	18 April	Sunday
6	19 April to 24 April 2021	Features of Immune Response – memory, cell specificity/diversity, recognition of self and non-self.
7	25 April	Sunday
8	26 April to 30 April 2021	Antigens: Concept, Types of Antigens, Antigenic determinants/epitopes, Hapten, Antigen and Immunogen, Antigenicity and Immunogenicity, Factors affecting antigenicity, Adjuvants, Antibodies: Structure, Types/Classes, properties and functions of immunoglobulins
9	2 May	Sunday
10	3 May to 8 May 2021	Antigen –Antibody Interactions: Binding sites, Binding forces, Affinity, Avidity, Cross reactions, Precipitation and Agglutination reactions, RIA, ELISA, Immunofluorescence

Principal
Dayanand College
HISAR

11	9 May 2021	Sunday
12	10 May to 15 May 2021	Flow cytometry and Fluorescence activated cell sorter (FACS), Complement system Structure, components, properties and functions. MHC and Antigen processing and presentation Structure and function of Major Histocompatibility Complex Class I and Class II MHC molecules, Endocytic pathway and Cytosolic pathway of Antigen processing and presentation.
13	16 May 2021	Sunday
14	17 May to 22 May 2021	Immune Response: Introduction, Humoral Immunity and Cell mediated immunity – Primary and Secondary immune response, Hypersensitivity, Types of hypersensitivity
15	23 May 2021	Sunday
16	24 May 2021	Assessment Test.
17	25 May to 29 May 2021	Autoimmunity, autoimmune disease Immunological tolerance. Vaccines: concept, types of vaccines Inactivated, Attenuated and Recombinant vaccines (Peptide and DNA vaccines)



Dr. Vivek Srivastava
(Associate Professor)
Head, Department of Biotechnology



Dr. Iqbal
(Assistant Professor)
Subject Tutor

Principal
Dayanand College,
HISAR

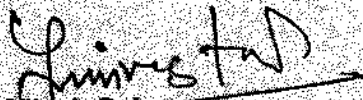
DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- IV (B.Sc. -II)
Submitted By: Dr. Ikhal

BIT 4021: Recombinant DNA Technology

1	30 May 2021	Course outcomes discussion.
2	31 May 2021 to 5 June 2021	Recombinant DNA Technology and Genetic Engineering: Introduction, history, scope and applications. Tools of Recombinant DNA technology
3	6 June 2021	Sunday.
4	7 June 2021 to 12 June 2021	Steps in gene cloning. Gene cloning tools - Restriction enzymes and their features. Ligases, polymerases, alkaline phosphatases, kinases, transferases and other DNA engineering enzymes. Linkers and adapters
5	13 June 2021	Sunday.
6	14 June 2021 to 18 June 2021	Gene Cloning Vectors: Introduction, Properties of host, nomenclature of vectors, properties of a suitable vector. Plasmid vectors, bacteriophage. M13 vectors. Expression vectors, BACs, Transformation: Techniques of introducing r-DNA into the desired host, competent cells, electroporation and microinjection
7	19 June 2021	Assignment submission.
8	20 June 2021	Sunday
9	21 June 2021 to 26 June 2021	Screening and selection of transformants and their characterization, selection of clone having the specific DNA insert - immunological screening and colony

Principal
Dayanand College,
HISAR

		hybridization. Marker genes- selectable and scorable markers
10	27 June 2021	Sunday
11	28 June 2021 to 30 June 2021	Gene Libraries: Construction of Genomic and cDNA library, advantages and limitations, screening of gene libraries. DNA amplification through PCR: Basic features and applications of PCR, types and modifications like inverse PCR, RT-PCR, anchored PCR, nested PCR.



Dr. Virek Srivastava
(Associate Professor)
Head, Department of Biotechnology



Dr. Tkbai
(Assistant Professor)
Subject Tutor


Principal
Dayanand College
BISAR

DAYANAND COLLEGE, HISAR
 Department of Biotechnology
LESSON PLAN (2020-2021)
 Semester- III (B. Sc. -I)

Submitted By: Dr. Kanchan

Discipline Specific Elective Biotechnology Paper IV
General Microbiology
 (BUT 2011)

Sr. No.	Month	Topics
1	5 April 2021	Course outcomes discussion.
2	6 April 2021 to 10 April 2021	Introduction, Importance and Scope of Microbiology; Definition and history of microbiology, contributions of Antony van Leeuwenhoek, Louis Pasteur, Robert Koch etc..
3	11 April 2021	Sunday
4	12 April 2021 to 17 April 2021	Branches of microbiology, Microscope Construction and working principles of different types of microscopes – compound, dark field, Phase contrast, Fluorescence and Electron (Scanning and transmission
5	18 April	Sunday
6	19 April to 24 April 2021	Sterilization techniques: Principles and Applications of Physical Methods: Autoclave, Hot air oven, Laminar airflow, Seitz filter, Sintered glass filter, and membran filter, Chemical Methods: Alcohol, Aldehydes, Phenol Halogens and Gaseous agents.
7	25 April	Sunday
8	26 April to 30 April 2021	Radiation Methods: UV rays and Gamma rays. Staining techniques: Principles of staining, types of stains – simple stains, structural stains and Differential stains..
9	2 May	Sunday

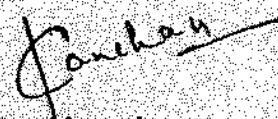

 Principal
 Dayanand College,
 HISAR

10	3 May to 8 May 2021	Microbial Taxonomy: Concept of microbial species and strains, classification of bacteria based on - morphology (shape and flagella), cell wall, nutrition, extreme environment and 16S rRNA techniques. Viruses and Bacteria: Bacteria - Ultrastructure of bacteria cell (both Gram positive and Gram negative) including endospore and capsule. Viruses - Structure and classification (A brief account).
11	9 May 2021	Sunday
12	10 May to 15 May 2021	Plant viruses - CaMV, Animal viruses - FMDV, Bacterial Virus - Lambda Phage. Pathogenic Microorganisms: Bacterial diseases of man - tetanus, Tuberculosis, Pneumonia, Cholera and Typhoid. Viral diseases: AIDS (HIV), Ebola, Swine Flu, Hepatitis, Papilloma virus
13	16 May 2021	Sunday
14	17 May to 22 May 2021	Microbial Growth and Metabolism: Kinetics of microbial growth, growth curve, synchronous growth, factors affecting bacterial growth. Methods to study growth.
15	23 May 2021	Sunday
16	24 May 2021	Assessment Test.
17	25 May to 29 May 2021	Respiration: Glycolysis, Kreb's cycle (TCA), Oxidative Phosphorylation. Bacterial Photosynthesis: Photosynthetic apparatus in prokaryotes, Photophosphorylation & Dark reaction.



Dr. Vivek Srivastava

(Associate Professor)

Head, Department of Biotechnology



Dr. Kanchan
(Assistant Professor)
Subject Tutor


Principal
Dayanand College,
HISAR

DAYANAND COLLEGE, HISAR

Department of Biotechnology

LESSON PLAN (2020- 2021)

Semester- 11 (B. Sc. -I)

Submitted By: Kanchan

**Discipline Specific Elective Biotechnology Paper-V
Biochemistry -11 (BIT 2021.)**

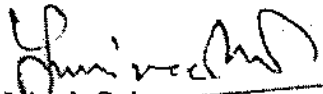
1	30 May 2021	Course outcomes discussion.
2	31 May 2021 to 5 June 2021	Enzymes: Introduction, active site, energy of activation, transition state hypothesis, lock and key hypothesis, induced fit hypothesis, Enzyme classification (Major classes only)
3	6 June 2021	Sunday.
4	7 June 2021 to 12 June 2021	Enzyme Kinetics – Hyperbolic curve, K_m , V_{max} , MM equation, Lineweaver Burk plot/Double reciprocal plot, Effect of pH and temperature on enzyme activity. Enzyme Inhibition – Competitive, non-competitive and uncompetitive inhibition. Allosteric enzymes (A brief account)
5	13 June 2021	Sunday.
6	14 June 2021 to 18 June 2021	Vitamins: Introduction, Types of vitamins – structure of water soluble vitamins and their coenzyme derivatives, Fat soluble vitamins. Deficiency symptoms and dietary sources. Hormones
7	19 June 2021	Assignment submission.
8	20 June 2021	Sunday
9	21 June 2021 to 26 June 2021	Steroid Hormones: structure and importance. Peptide Hormones: structure and function of important peptide hormones.
10	27 June 2021	Sunday

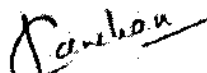
Principal

Dayanand College,

HISAR

11	28 June 2021 to 30 June 2021	Metabolism: General introduction, catabolism and anabolism, Bioenergetics, Carbohydrates metabolism: Glycolysis, Tricarboxylic acid cycle, Gluconeogenesis Glycogenolysis, glycogen synthesis and their regulation.
----	------------------------------	---


 Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology


 Dr. Kanchar
 (Assistant Professor)
 Subject Tutor



 Principal
 Dayanand College,
 HISAR


DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester - VI (B.Sc. -III)
Submitted By: Dr. Raj Rani
Discipline Specific Elective Biotechnology Paper- IV
Animal Biotechnology
(BTE 6011)

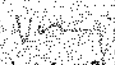
Sr. No.	Month	Topics
1	5 April 2021	Course outcomes discussion
2	6 April 2021 to 10 April 2021	Animal Cell & Tissue Culture: Introduction, Principles & practice, History and Development of animal cell culture, Scope and Applications, Culture Media: Media components, Serum containing and serum free media, Natural media- Plasma clot, biological fluids, tissue extracts. Growth factors required for proliferation of animal cells.
3	11 April 2021	Sunday
4	12 April 2021 to 17 April 2021	Chemically defined media, balanced salt solutions. Physical requirements for growing animal cells in culture
5	18 April	Sunday
6	19 April to 24 April 2021	Primary Cell Culture techniques: Initiation of cell culture-substrates (glass, plastic, metals) their preparation and sterilization.
7	25 April	Sunday
8	26 April to 30 April 2021	Isolation of tissue explants, disaggregation- enzyme disaggregation and mechanical disaggregation of the tissue. Development of primary culture and cell lines. Contamination in animal cell cultures. Suspension culture, Growth curve of animal cells in culture. Secondary cell culture - transformed cell and continuous cell lines. Finite and infinite cell lines.
9	2 May	Sunday

Vijay
Principal
Dayanand College,
HISAR

10	3 May to 8 May 2021	Cell lines: Commonly used cell lines: their organization and characteristics. Organ Culture: technique, advantages, applications and limitations. Artificial skin. Transfection of animal cells: transfection methods. Selection markers. Cloning and expression of foreign genes in animal cells. Expression vectors.
11	9 May 2021	Sunday
12	10 May to 15 May 2021	Over production of recombinant proteins. Hybridoma Technology: Production of monoclonal antibodies and their applications. Embryo transfer technology: technique, its applications. Artificial insemination. Animal clones. Transgenic Animals: transgenic sheep, cow, pig, goat etc.
13	16 May 2021	Sunday
14	17 May to 22 May 2021	Production of transgenic mice, Gene targeting in mice, applications of gene targeting.
15	23 May 2021	Sunday
16	24 May 2021	Assessment Test.
17	25 May to 29 May 2021	Therapeutic products through genetic engineering – blood proteins, insulin, growth hormone etc. Gene Therapy: introduction, types of gene therapy, major achievements, problems and prospects. Stem cells in gene therapy.


 Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology


 Dr. RAJ RANI
 (Assistant Professor)
 Subject Tutor


 Principal
 Dayanand College,
 HISAR


DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester - VI (B.Sc. -III)
Submitted By: Dr. Raj Rani

Discipline Specific Elective Biotechnology Paper-V
Bioinformatics (BIT 602 L)

1	30 May 2021	Course outcomes discussion
2	31 May 2021 to 5 June 2021	Basics of computer and Bioinformatics. Fundamental aspects of computer and Internet in relation to bioinformatics. Database management systems (Object-oriented and relational). Introduction, History, goals and Scope, applications and limitations of Bioinformatics
3	6 June 2021	Sunday.
4	7 June 2021 to 12 June 2021	Information Networks (EMB-NET, NIC-NET, INFLIBNET). Introduction to Genomics and genome projects – information flow in biology DNA sequence data, experimental approach to genome sequence data.
5	13 June 2021	Sunday.
6	14 June 2021 to 18 June 2021	Genome information resources. Functional Proteomics – protein sequence and structural data. protein information resources and secondary data bases. Computational Genomics - Internet basics.
7	19 June 2021	Assignment submission.
8	20 June 2021	Sunday
9	21 June 2021 to 26 June 2021	Biological data analysis and application, sequence data bases, NCBI model, File format. Protein primary sequence comparison, pair wise alignment and analysis, algorithm BLAST
10	27 June 2021	Sunday

Dr. Raj Rani
Principal
 Dayanand College
 Hisar

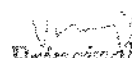
11	28 June 2021 to 30 June 2021	Variants of BLAST, multiple sequence alignment. DATA base searching using BLAST and FASTA. Predictive methods using DNA and protein sequences protein prediction, motif, tertiary structure). Structural data bases. Protein data bank.
----	------------------------------	---



Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology



Dr. RAJ RANI
 (Assistant Professor)
 Subject Tutor


 Principal
 Dayanand C. B.S. 12
 HISAR

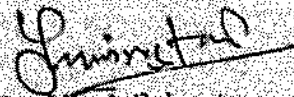
DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester VI (B.Sc. III)
Submitted By: Dr. Raj Rani


Skill enhancement course Biotechnology Paper-I
Molecular Diagnostic
(BIT 6041)


Sr. No.	Month	Topics
1	30 June 2021	Course outcomes discussion.
2	1 July 2021 to 3 July 2021	Enzyme Immunoassays: Comparison of enzymes available for enzyme immunoassays, conjugation of enzymes. Solid phases used in enzyme immunoassays. Homogeneous and heterogeneous enzyme immunoassays. Enzyme immunoassays after immunoblotting. Enzyme immunohistochemical techniques. Use of polyclonal or monoclonal antibodies in enzyme immuno assays.
3	4 July 2021	Sunday
5	5 July 2021 to 7 July 2021	Applications of enzyme immunoassays in diagnostic microbiology. Molecular methods in clinical microbiology: Applications of PCR, RFLP, Nuclear hybridization methods
7	8 July 2021 to 10 July 2021	Applications of enzyme immunoassays in diagnostic microbiology. Molecular methods in clinical microbiology: Applications of PCR, RFLP, Nuclear hybridization methods
8	11 July 2021	Sunday.
10	12 July 2021 to 17 July 2021	Automation in microbial diagnosis, rapid diagnostic approach including technical purification and standardization of antigen and specific antibodies. Concepts and methods in idiotypes.
11	18 July 2021	Sunday

Principal
Dayanand College,
HISAR


12	19 July 2021 to 22 July 2021	Single nucleotide and plasmid fingerprinting in clinical microbiology. Susceptibility tests: Micro-dilution and macro-dilution broth procedures. Susceptibility tests: Diffusion test procedures.
20	23 July 2021 to 24 July 2021	Susceptibility tests: Tests for bactericidal activity. Automated procedures for antimicrobial susceptibility tests. Antigenotypes and molecular mimicry and receptors.
21	25 July 2021	Sunday
22	26 July 2021 to 31 July 2021	Epitope design and applications. Immunodiagnostic tests. Immuno fluorescence. Radioimmunoassay (RIA), HPLC. Laboratory tests in chemotherapy. Electron microscopy, flow cytometry and cell sorting.


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology



Dr. RAJ RANI
 (Assistant Professor)
 Subject Tutor


Principal
Dayanand College,
HISAR

Sr. No.	Month	Topics
1	December 31, 2020 to January 2, 2021	Microscopy: Simple microscopy, phase contrast microscopy, Fluorescence and electron microscopy (TEM and SEM), pH meter.
2	January 3, 2021	Sunday
3	January 4, 2021 to January 8, 2021	Spectroscopy: Principle and law of absorption, colorimetry, Spectrophotometry (visible, UV, infrared)
4	January 9, 2021	Sunday
5	January 10, 2021 to January 16, 2021	cell fractionation techniques, isolation of sub-cellular organelles and particles, Chromatography: Principle of chromatography, Paper chromatography, thin layer chromatography, column chromatography, silica and gel filtration, affinity and ion exchange chromatography, gas chromatography, HPLC
6	January 17, 2021	Sunday
7	January 18, 2021 to January 22, 2021	Electrophoresis: Introduction to electrophoresis, Starch-gel, polyacrylamide gel (native and SDS-PAGE), agarose-gel electrophoresis, pulse field gel electrophoresis, immuno-electrophoresis, isoelectric focusing, Western blotting
8	January 23, 2021	Assessment test.
9	January 24, 2021	Sunday
10	January 25, 2021 to January 30, 2021	DNA (A, B, Z-DNA) and RNA (rRNA, mRNA, tRNA)
11	January 31, 2021	Sunday
13	1 February 2021 to 6 February 2021	Properties of DNA - absorption, denaturation, renaturation, hybridization, Tm/Cot values, Biological importance of ATP and GTP
14	7 February 2021	Sunday
15	8 February 2021	Assignment submission and assessment test.


Dr. Vigeh Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology

Dr. Ikbal
 (Assistant Professor)
 Subject Tutor


Principal
 Dayanand College,
 HISAR

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- V (B. Sc. -III) year

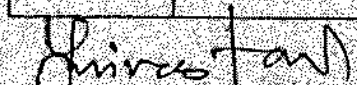
Discipline Specific Elective Biotechnology Paper-II
Microbial Biotechnology
(BIT 502 L)


Max. Marks: 80
Internal Assessment: 20

Sr. No.	Month	Topics
1.	November 16, 2020 to November 21, 2020	Microbial Biotechnology: Historical and General concept. Screening and Isolation of organisms: Industrially important microbes, screening and isolation, enrichment culture, improvement- bacterial genetics, mutant selection, Recombination, recombinant DNA technology
2	November 22, 2020	Sunday
3	November 23, 2020 to November 28, 2020	Strain preservation and maintenance. Nutrient cultivation of microorganisms: Basic nutrient metabolism, Natural and Synthetic media, Sterilization techniques, Microbial growth kinetics.
4	November 29, 2020	Sunday
5	November 30, 2020	Guru Nanak Jayanti
6	December 1, 2020 to December 5, 2020	Microbial Fermenters/Bioreactors: Basic design of fermenters, Physico-chemical standards in bioreactors (agitation, aeration, pH, temp., dissolved oxygen etc.). Types of fermenters- stirred tank etc. Fermentation types - Continuous, Batch, Solid state and Submerged. Quantification of thermodynamics of growth, effect of different factors on growth.
7	December 6, 2020	Sunday

Principal
Dayanand College
HISAR

8	December 7, 2020 to December 12, 2020	Process Development and Downstream Processing: Shake flask fermentation, scale up of the process. Separation of particles, disintegration of cells, extraction, concentration, purification and drying of the products.
9	December 13, 2020	Sunday
10	December 14, 2020 to December 19, 2020	Microbial Products: a brief discussion about production of certain industrial products such as – Alcohol Alcoholic beverage (Beer), Organic acids (citric acid), Antibiotics (penicillin), Amino acids (glutamic acid, Vitamin (B12), enzymes (protease, alpha amylase) and Biotransformation. Microbial Foods: Single Cell Proteins.
11	December 20, 2020	Sunday
12	December 21, 2020	Problems Taken and Assign the assignments.
13	December 22, 2020 to December 24, 2020	Sewage waste water treatment: Aerobic and anaerobic digestion. Bioremediation. Biodegradation of xenobiotic compounds. Biotransformation, Biomining, bioleaching, biogas production. Microbial technology in agriculture.
14	December 25, 2020	Christmas Holiday
15	December 26, 2020 to December 28, 2020	Bioinsecticides, bioherbicides, biocontrol agents for disease control, advantages over chemical methods. Biofertilizers


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. RAJ RANI
 (Assistant Professor)
 Subject Tutor

Principal
Davson College,
HISAR

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- V (B. Sc. -III) year


Discipline Specific Elective Biotechnology Paper-I
Plant Biotechnology
(BIT 501 L)


Sr. No.	Month	Topics
1.	December 29, 2020 to January 1, 2021	Plant Tissue Culture: Introduction, Concept, History, Scope and Applications. Plant Tissue Culture Laboratory: Layout, organization, equipments, instruments and other requirements. Aseptic Techniques: General sanitation/cleanliness of PTC laboratory and precautions regarding maintenance of aseptic conditions, Washing, drying and sterilization of glassware, sterilization of media.
2	January 2, 2021	HTET Exam
3	January 3, 2020	Sunday
4	January 4, 2021 to January 8, 2021	Culture Media: Nutritional requirements for plant tissue culture, role of different media components, plant growth regulators, different culture media viz. MS, B5 Nitsch and White's medium. In-vitro methods in plant tissue culture..
5	January 9, 2021	HSSC exam
6	January 10, 2021	Sunday
7	January 11, 2021 to January 16, 2021	Explants, their cellular characteristics, dedifferentiation and redifferentiation, cellular totipotency, organogenesis and somatic embryogenesis.
8	January 17, 2021	Sunday
9	January 18, 2021 to January 22, 2021	Micropropagation, (different routes of multiplication-axillary, bud proliferation etc.), Synthetic seeds (a brief account), Meristem culture


10	January 23, 2021	Assign the Assignments and Assessment Test.
11	January 24, 2021	Sunday
12	January 25, 2021	Solve Doubts and Difficulties.
13	January 26, 2021	Holiday
14	January 27, 2021	Solve Doubts and Difficulties.
15	January 28, 2021 to January 30, 2021	Protoplast culture: Protoplast isolation, viability test and its culture. Somatic hybridization – protoplast fusion techniques (chemical and electro-fusion), selection of hybrids, production of symmetric and asymmetric hybrids and cybrids. Practical applications of somatic hybridization.
16	January 31, 2021	Sunday
17	February 1, 2021 to February 6, 2021	Production of secondary metabolites in vitro: introduction, technique and utilities. Plant germ plasm conservation and cryopreservation. Genetic Engineering in plants: Introduction, <i>Agrobacterium tumefaciens</i> and <i>A. rhizogenes</i> mediated transformation
18	February 7, 2021	Sunday
19	February 8, 2021 to February 12, 2021	Ti plasmid. Strategies for gene transfer to plant cells. Binary and co-integrate vectors. Direct DNA transfer/Physical methods of gene transfer in plants –biolistic method, electroporation, liposome mediated, Calcium phosphate mediated, microinjection etc.
20	February 13, 2021	Assesment Test.
21	February 14, 2021	Sunday
22	February 15, 2021 to February 20, 2021	Transgenic Plants: Introduction and applications. Developing insect resistance, bacterial, fungal and viral disease resistance and abiotic stress tolerance in plants
23	February 21, 2021	Sunday
24	February 22, 2021 to February 27, 2021	Revision and problem taken

Principal
D. S. D. S. D. S.

25	February 28, 2021	Sunday
26	March 1, 2021 to March 6, 2021	Improving food quality – nutritional enhancement of plants (carbohydrates, seed storage proteins and vitamins).
27	March 7, 2021	Sunday
28	March 8, 2021 to March 13, 2021	Plants as Bioreactors: antibodies, polymers, industrial enzymes (Brief account only).
29	March 14, 2021	Sunday
30	March 15, 2021	Edible vaccines.
31	March 16, 2021	Whole syllabus test.
32	March 17, 2021 to March 20, 2021	Revision and problems taken


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. RAJ RANI
 (Assistant Professor)
 Subject Tutor


Principal
Durgam Chhaya College,
BHARATPUR

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- I (B. Sc. -I) year

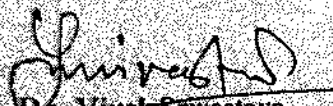
Discipline Specific Elective Biotechnology Paper-I
Introduction to Biotechnology
(BIT 101 L)

Max. Marks: 80
Internal Assessment: 20

Sr. No.	Month	Topics
1.	November 16, 2020 to November 21, 2020	Introduction to Biotechnology: History and major landmarks in the development of biotechnology, Introduction to gene and genomes, Proteins and proteome.
2	November 22, 2020	Sunday
3	November 23, 2020 to November 28, 2020	Fermentation technology: General introduction, basic technique and applications.
4	November 29, 2020	Sunday
5	November 30, 2020	Guru Nanak Jayanti
6	December 1, 2020 to December 5, 2020	Plant Tissue Culture: General introduction, basic technique and applications, Animal Tissue Culture: General introduction, basic technique and applications.
7	December 6, 2020	Sunday

Vinod
Principal
Dayanand College,
HISAR

8	December 7, 2020 to December 12, 2020	Genetic Engineering: Introduction and history, Recombinant DNA technology, Genetically modified organisms (GMOs), DNA finger printing and forensic analysis.
9	December 13, 2020	Sunday
10	December 14, 2020 to December 19, 2020	Applications of biotechnology: Applications of biotechnology in agriculture, animal husbandry, veterinary sciences, food & feed industry, chemical industry
11	December 20, 2020	Sunday
12	December 21, 2020	Problems Taken and Assign the assignments.
13	December 22, 2020 to December 24, 2020	environment, bioremediation & waste water treatment, solid waste management, biofuels, human health and medicine (Monoclonal antibodies, hybridoma technology and embryo transfer technology)
14	December 25, 2020	Christmas Holiday
15	December 26, 2020 to December 28, 2020	Bio-safety and Ethics: Biotechnology research in India, Biotechnology in context of developing world. Brief account of safety guidelines and risk assessment in biotechnology, Ethics in Biotechnology, Intellectual property rights. Nanotechnology: Introduction, history and scope (Brief account)


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. KANCHAN
 (Assistant Professor)
 Subject Tutor

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- 1(B. Sc. -I) year

Discipline Specific Elective Biotechnology Paper-I
Biochemistry-I
(BIT 102 L)

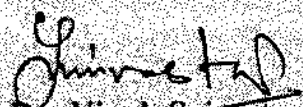
Sr. No.	Month	Topics
1.	December 29,2020 to January 1,2021	Biochemistry: Introduction, History and major landmarks in the development of biochemistry, Chemical Foundations of Life – biomolecules and biological chemistry.
2	January 2,2021	HTET Exam
3	January 3,2020	Sunday
4	January 4,2021 to January 8,2021	Interactions in biological systems: Intra and intermolecular forces, Electrostatic and hydrogen bonds, Disulfide bridges, Hydrophobic and hydrophilic molecules and forces, Water and weak interactions, pI and buffers.
5	January 9,2021	HSSC exam
6	January 10,2021	Sunday
7	January 11,2021 to January 16,2021	Carbohydrates: Structure, Function and properties of biologically important monosaccharides, disaccharides and polysaccharides. Homo & Hetero Polysaccharides, Mucopolysaccharides

Vinod
Principal
Dayanand C. Coll.,
Hisar

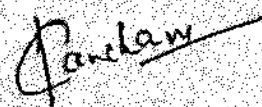
8	January 17, 2021	Sunday
9	January 18, 2021 to January 22, 2021	Bacterial cell wall polysaccharides, Glycoprotein's and their biological functions
10	January 23, 2021	Assign the Assignments and Assessment Test.
11	January 24, 2021	Sunday
12	January 25, 2021	Solve Doubts and Difficulties.
13	January 26, 2021	Holiday
14	January 27, 2021	Solve Doubts and Difficulties.
15	January 28, 2021 to January 30, 2021	Amino acids and Proteins: Structure and properties of amino acids, Essential amino acids, rare and non-protein amino acids, acid base behaviour/zwitterions; pKa value and titration curve.
16	January 31, 2021	Sunday
17	February 1, 2021 to February 6, 2021	Proteins: Peptide bond, Structure and function of some biologically important peptides Types of proteins and their classification,
18	February 7, 2021	Sunday
19	February 8, 2021 to February 12, 2021	Forces stabilizing protein structure and shape. Different Level of structural organization of proteins.
20	February 13, 2021	Assesment Test.
21	February 14, 2021	Sunday
22	February 15, 2021 to February 20, 2021	Lipids: Introduction and Classification – simple and complex lipids, Fatty acids – structure and nomenclature, soap value, acid value, iodine number, rancidity.
23	February 21, 2021	Sunday


 Principal
 Date: 15.02.2021

24	February 22,2021 to February 27,2021	Revision and problem taken
25	February 28,2021	Sunday
26	March 1,2021 to March 6,2021	Essential fatty acids, A general account of structure and function of Triacylglycerols, Phospholipids, Glycolipids
27	March 7,2021	Sunday
28	March 8,2021 to March 13,2021	R Nucleotides and Nucleic acids: Building blocks: bases, sugars and phosphates, Structure and nomenclature of nucleosides and nucleotides; polynucleotides, DNA (A, B, Z-DNA
29	March 14,2021	Sunday
30	March 15,2021	RNA (rRNA, mRNA, tRNA). Properties of DNA – absorption, denaturation, renaturation, hybridization, Tm/Cot values. Biological importance of ATP and GTP
31	March 16,2021	Whole syllabus test.
32	March 17,2021 to March 20,2021	Revision and problems taken



Dr. Vivek Srivastava
(Associate Professor)
Head, Dept. of Biotechnology



Dr. KANCHAN
(Assistant Professor)
Subject Tutor

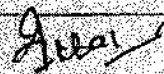
Principal
Dayanand College,
HISAR

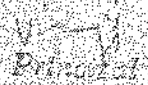
Molecular Biology
2020-21
(BIT 3011)

Sr. No.	Month	Topics
1	November 16, 2020	Course outcomes discussion
2	November 17 to November 21, 2020	Molecular Biology: Introduction to molecular aspects of life. DNA as the genetic material - experiments proving DNA and RNA as genetic material. Nucleic acids: Structure, function and properties of DNA and RNA. Watson and Crick model of DNA.
3	November 22, 2020	Sunday
4	November 23, 2020 to November 28, 2020	DNA forms (A, B and Z), their characteristic. Different types of RNA, their structure and function. Eukaryotic genomes: Chromosomal organization and structure. Euchromatin, heterochromatin, centromere, telomere. Chromatin structure (nucleosome), histone and non-histone proteins.
5	November 29, 2020	Sunday
	November 30, 2020	Guru Nank Jayanti
6	December 1, 2020 to December 5, 2020	DNA Replication: Central dogma of molecular biology. Semi-conservative mode of DNA replication, experimental proof. Unidirectional and bidirectional mode of DNA replication, theta model.
7	December 6, 2020	Sunday
8	December 7, 2020 to December 12, 2020	DNA replication in prokaryotes and eukaryotes, different stages, proteins and enzymes involved. DNA damage and repair: causes of DNA damage, mutations. Repair mechanisms: photo reactivation, excision repair, mismatch repair.
9	December 13, 2020	Sunday
10	December 14, 2020 to December 19, 2020	Transcription in prokaryotes and eukaryotes, diff. stages, mechanism, promoters, transcription factors, RNA polymerases. Post transcriptional modifications: 5' cap formation, 3'-end processing/polyadenylation and gene splicing and generation of mature mRNA.
11	December 20, 2020	Sunday
12	December 21, 2020 to December 24, 2020	Inhibitors of transcription. Genetic Code: concept, elucidation or cracking of genetic code, features of genetic code, Wobble hypothesis, Structure of gene.

		prokaryotic gene
13	December 25, 2020	Sunday
14	December 26, 2020 to December 29, 2020	Translation/Protein synthesis: Mechanism of initiation, elongation and termination of protein synthesis in prokaryotes and eukaryotes. Inhibitors of translation. Post-translational modifications. Regulation of Gene Expression in prokaryotes and eukaryotes, induction and repression, positive and negative regulation. Operon model- lac, ara, trp, catabolite repression, transcription attenuation.
15	December 30, 2020	Assignment Submission.


 Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


 Dr. Ikbal
 (Assistant Professor)
 Subject Tutor


 Principal
 Dayanand College,
 HISAR

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The Teacher with designation : Dr. Mahender Singh (Associate Professor)
Department : History
Section : B.A – V Sem. (A.D.H)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A - V Sem.	Transition from Feudalism to Capitalism in Europe Renaissance: Origins, Emergence and Results	
December	B.A. V Sem.	Reformation: Origins, Emergence and Results Shift of Economic Balance from the Mediterranean to Atlantic Region Early Colonial System: Motives, Process and Consequences of Colonization of Americas Map Work	Assignment
January	B.A - V Sem.	Mercantile Revolution: Origins and Results Scientific Revolution: Origins and Impact Glorious Revolution: Origins and Results Map Work	Assignment
February	B.A - V Sem.	Industrial Revolution: Origins, Progress and Impact Agricultural Revolution: Origins, Progress and Impact Map Work	Test
March	B.A - V Sem.	Revision	

Signature of Teacher Concerned with date


Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The teacher with designation : Mr. Mahender Singh (Assistant Professor)
Department : History
Section : B.A – Ist Sem (B,G)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-I Sem	Meaning and Scope of History Sources of Ancient Indian History Pre-Historic Age: Hunter Gatherers, Concept of Neolithic	
December	B.A.-I Sem	Harappan Civilization: Origins, Extent, Town Planning, Economy, Society, Arts, Political Organization and causes of decline. Vedic Culture and Literature: Polity, Society & Religion Map Work	Assignment
January	B.A.-I Sem	Social Institutions: Varna, Caste and Untouchability Emergence of Sixteen Mahajanpas and the Rise of Magada Empire Religious Movements: Causes of Rise of Religious movement, Buddhism and Jainism. Map Work	Assignment
February	B.A.-I Sem	Mauryan Empire: Polity and Economy, Administration; Ashoka's Dhamma Post-Mauryan Empires: Kushanas and Satvahanas Gupta Map Work	Test
March	B.A.-I Sem	Gupta Empire: Establishment and Expansion, Administration, Society, Economy, Art and Architecture Map Work	

Signature of Teacher Concerned with date



Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The Teacher with designation : Dr. Mahender Singh (Associate Professor)
Department : History
Section : B.A - III Sem (A)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-III Sem	Establishment of the Mughal Empire: Babur Sher Shah Suri and His Administration	
December	B.A. III Sem	Akbar: Expansion of Empire and Religious Policy Aurangzeb: Expansion of Empire and Religious Policy M Relations of Mughals with the Rajputs Deccan Policy of the Mughals Map Work	Assignment
January	B.A.-III Sem	Mughal Administration and Revenue System Institutions: Mansabdari and Jagirdari Decline of the Mughal Empire Map Work	Assignment
February	B.A.-III Sem	Rivalry between the French and the British in India Founding of the British Empire: Battles of Plessey & Buxer Consolidation of the British Empire: Subsidiary Alliance System and Doctrine of Lapse; Map Work	Test
March	B.A.-III Sem	Annexation of Punjab Uprising of 1857: Causes, Events and Consequences Revision	

Signature of Teacher Concerned with date


Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The Teacher with designation : Dr. Joginder Singh (Assistant Professor)
Department : History
Section : B.A – III Sem. (G.E.A)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-III Sem.	Establishment of the Mughal Empire: Babur Sher Shah Suri and His Administration	
December	B.A.III Sem.	Akbar: Expansion of Empire and Religious Policy Aurangzeb: Expansion of Empire and Religious Policy M Relations of Mughals with the Rajputs Deccan Policy of the Mughals Map Work	Assignment
January	B.A.-III Sem.	Mughal Administration and Revenue System Institutions: Mansabdari and Jagirdari Decline of the Mughal Empire Map Work	Assignment
February	B.A.-III Sem.	Rivalry between the French and the British in India Founding of the British Empire: Battles of Plessey & Buxer Consolidation of the British Empire: Subsidiary Alliance System and Doctrine of Lapse; Map Work	Test
March	B.A.-III Sem.	Annexation of Punjab Uprising of 1857: Causes, Events and Consequences Revision	

Signature of Teacher Concerned with date


Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The teacher with designation : Dr. Suruchi Sharma (Assistant Professor)
Department : History
Section : B.A – V Sem. (B.)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A. - V Sem.	Transition from Feudalism to Capitalism in Europe Renaissance: Origins, Emergence and Results	
December	B.A. V Sem.	Reformation: Origins, Emergence and Results Shift of Economic Balance from the Mediterranean to Atlantic Region Early Colonial System: Motives, Process and Consequences of Colonization of Americas Map Work	Assignment
January	B.A. - V Sem.	Mercantile Revolution: Origins and Results Scientific Revolution: Origins and Impact Glorious Revolution: Origins and Results Map Work	Assignment
February	B.A. - V Sem.	Industrial Revolution: Origins, Progress and Impact Agricultural Revolution: Origins, Progress and Impact Map Work	Test
March	B.A. - V Sem.	Revision	

Signature of Teacher Concerned with date


Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
Name of The teacher with designation : Dr. Suruchi Sharma (Associate Professor)
Department : History
Section : B.A - V Sem. (A.D,H)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-V Sem	Transition from Feudalism to Capitalism in Europe Renaissance: Origins, Emergence and Results	
December	B.A.V Sem	Reformation: Origins, Emergence and Results Shift of Economic Balance from the Mediterranean to Atlantic Region Early Colonial System: Motives, Process and Consequences of Colonization of Americas Map Work	Assignment
January	B.A.-V Sem	Mercantile Revolution: Origins and Results Scientific Revolution: Origins and Impact Glorious Revolution: Origins and Results Map Work	Assignment
February	B.A.-V Sem	Industrial Revolution: Origins, Progress and Impact Agricultural Revolution: Origins, Progress and Impact Map Work	Test
March	B.A.-V Sem	Revision	

Signature of Teacher Concerned with date


Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher with designation : Dr. Joginder Singh (Assistant Professor)
 Department : History
 Section : B.A – Ist Sem (A.C)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-I Sem	Meaning and Scope of History Sources of Ancient Indian History Pre-Historic Age: Hunter Gatherers, Concept of Neolithic	
December	B.A.-I Sem	Harappan Civilization: Origins, Extent, Town Planning, Economy, Society, Arts, Political Organization and causes of decline. Vedic Culture and Literature: Polity, Society & Religion Map Work	Assignment
January	B.A.-I Sem	Social Institutions: Varna, Caste and Untouchability Emergence of Sixteen Mahajanpas and the Rise of Magada Empire Religious Movements: Causes of Rise of Religious movement, Buddhism and Jainism. Map Work	Assignment
February	B.A.-I Sem	Mauryan Empire: Polity and Economy, Administration; Ashoka's Dhamma Post-Mauryan Empires: Kushanas and Satvahanas Gupta Map Work	Test
March	B.A.-I Sem	Gupta Empire: Establishment and Expansion, Administration, Society, Economy, Art and Architecture Map Work	

Signature of Teacher Concerned with date


 Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The Teacher with designation : Dr. Joginder Singh (Assistant Professor)
 Department : History
 Section : B.A – III Sem. (H,D)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-III Sem.	Establishment of the Mughal Empire: Babur Sher Shah Suri and His Administration	
December	B.A.III Sem.	Akbar: Expansion of Empire and Religious Policy Aurangzeb: Expansion of Empire and Religious Policy M Relations of Mughals with the Rajputs Deccan Policy of the Mughals Map Work	Assignment
January	B.A.-III Sem.	Mughal Administration and Revenue System Institutions: Mansabdari and Jagirdari Decline of the Mughal Empire Map Work	Assignment
February	B.A.-III Sem.	Rivalry between the French and the British in India Founding of the British Empire: Battles of Plessey & Buxer Consolidation of the British Empire: Subsidiary Alliance System and Doctrine of Lapse; Map Work	Test
March	B.A.-III Sem.	Annexation of Punjab Uprising of 1857: Causes, Events and Consequences Revision	

Signature of Teacher Concerned with date


 Head of Department

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher with designation : Dr. Suruchi Sharma (Associate Professor)
 Department : History
 Section : B.A – V Sem. (A.D,H)

Month	Class	Topic/Chapter Covered	Test/Assignment
November	B.A.-V Sem	Transition from Feudalism to Capitalism in Europe Renaissance: Origins, Emergence and Results	
December	B.A.V Sem	Reformation: Origins, Emergence and Results Shift of Economic Balance from the Mediterranean to Atlantic Region Early Colonial System: Motives, Process and Consequences of Colonization of Americas Map Work	Assignment
January	B.A.-V Sem	Mercantile Revolution: Origins and Results Scientific Revolution: Origins and Impact Glorious Revolution: Origins and Results Map Work	Assignment
February	B.A.-V Sem	Industrial Revolution: Origins, Progress and Impact Agricultural Revolution: Origins, Progress and Impact Map Work	Test
March	B.A.-V Sem	Revision	

Signature of Teacher Concerned with date


 Head of Department

DAYANAND PG College, HISAR

Lesson Plan of Year 2020-2021

Department- Mathematics

Course Name- Algebra: CML-106/BAMH111

Programme Name- B.Sc.(Non Med, Electronics, Comp. Science)/B.A. I

Teachers- Ms. Shivani, Ms. Sarita, Ms. Manjeet Kaur, Ms. Renu, Ms. Illa Dhingra SEM-I

Month	Week	Topic	Assignment/ Test
V O N	3rd	1. symmetric, skew symmetric	
	4th	2. Hermitian and skew-Hermitian.	
D E C	1st	1. Elementary operation on matrices, Rank of a matrix. Inverse of a matrix.	1st Assignment
	2nd	2. Linear dependence and independence of rows and columns of matrices, Row rank and column rank of a m	
	3rd	3. Eigen values, eigen vectors and the characteristic equation of a matrix, Minimal polynomial of a matrix.	
	4th	4. Cayley Hamilton theorem and its use in finding inverse of a matrix.	
J A N	1st	1. Application of matrices to a system of linear (both homogenous and non-homogenous) equations.	Minor Test
	2nd	2. Theorems on consistency of a system of linear equations	
	3rd	3. Unitary and Orthogonal Matrices. Bilinear and Quadratic forms.	
	4th	4. Descarte's rule of signs, Relations between the roots and coefficients of general polynomial equation in one variable.	
F E B	1st	1. Solution of polynomial equations having conditions on roots, Common roots and multiple roots.	2nd Assignment
	2nd	2. Transformation of equations, Nature of the roots of an equation.	
	3rd	3. Descarte's rule of signs, Solution of cubic equations (Cardan's method).	
	4th	Revision, Test	

COURSE: CALCULUS: CML-107/BAMH112

Programme Name- B.Sc.(Non Med, Electronics, Comp. Science)/B.A. I

Teacher- Dr. Inderjit Singh, Dr. Neeru Bala, Ms. Ridhi, Ms. Sarita, Ms. Manjeet Kaur, Mr. Jogender, Ms. N

SEM-I

Month	Week	Topic	Assignment/ Test
NOV	3rd	Definition of the limit of a function, Basic properties of limits, Continuous functions and classification of discontinuity	
	4th	Differentiability, Successive differentiation.	
DEC	1st	Leibnitz theorem, Maclaurin and Taylor series expansions	1st Assignment
	2nd	Asymptotes in Cartesian coordinates, Intersection of curve and its asymptotes	
	3rd	Asymptotes in polar coordinates, Curvature	
	4th	Radius of curvature for Cartesian curves, parametric curves, polar curves, Newton's method	

Programme Name- B.Sc.(Non Med, Electronics, Comp. Science), B.A II

Teacher- Dr. Neeru Bala, Ms. Shiyani, Mr. Chander Mohan, Ms. Kusum Beniwal

Month	Week	Topic
P S T E	3rd	To interpolate the data using Newton's forward interpolation formula
	4th	To interpolate the data using Newton's backward interpolation formula
O C T	1st	To interpolate the data using Gauss's forward interpolation formula
	2nd	To interpolate the data using Gauss's backward interpolation formula
	3rd	To interpolate the data using Lagrange's interpolation formula
	4th	To find the roots of algebraic and transcendental equations using Bisection method
N O V	1st	To find the roots of algebraic and transcendental equations using Regula-Falsi method.
	2nd	To find the roots of algebraic and transcendental equations using Secant method.
	3rd	To find the roots of algebraic and transcendental equations using Newton-Raphson's method.
	4th	To solve the system of linear equations using Gauss -elimination method.
D E C	1st	To solve the system of linear equations using Gauss -Seidal iteration method.
	2nd	To solve the system of linear equation using Gauss -jordan method.
	3rd	To find the largest eigen value of a matrix by Power -method.
	4th	To integrate numerically using Trapezoidal rule.
J A N	1st	To integrate numerically using Simpson's one- third rule.
	2nd	To integrate numerically using Simpson's three-eighth rule.
	3rd	To find numerical solution of ordinary differential equations by Euler's method/ Modified Euler's method.
	4th	To find numerical solution of ordinary differential equations by Runge -Kutta method.

Course Name- Groups & Rings: CML-506/BAMH301

Programme Name- BA/BSc.(Non Med, Electronics, Comp. Science) III

TEACHERS- Dr. Inderjit Singh, Ms. Ridhipal, Ms. Sarita, Ms. Manjeet Kaur

SEM-V

Month	Week	Topic	Assignment/ Test
S E P	3rd	Definitions of a Group, Examples of Abelian and Non Abelian groups.	
	4th	The group Z_n of Integers under addition modulo n & group $U(n)$, Cyclic Groups	
O C T	1st	Subgroups and Criteria, Cosets and Properties	1st Assignment
	2nd	Index of Subgroup, Coset decomposition, Lagrange's Theorem and its Consequences	
	3rd	Normal Subgroups;	
	4th	Quotient Groups, Homomorphisms	
	1st	Isomorphisms, Automorphisms on Group	

M,

Vinay

N O V	2nd	Permutation Groups, Alternating Groups	Minor Test
	3rd	Centre of a group, Class equation of group, Introduction to Rings.	
	4th	Subrings, Integral Domains and Fields.	
D E C	1st	Characteristics of Ring, Ideals(Principle, Prime and Maximal)	2nd Assignment
	2nd	Ring Homomorphism, Theorem on Ring Homomorphism	
	3rd	Quotient Rings, Field of Quotients of an Integral Domain,	
	4th	Euclidean Ring	
J A N	1st	Polynomial Rings, Polynomial over Rational Field,	Revision Tests
	2nd	Einstein Criteria of Irreducibility	
	3rd	PID, UFD	
	4th	Test & Revision	

COURSE: SEQUENCES AND SERIES: CML-507/BAMH302

PROGRAM NAME: B.Sc(Non Med, Electronics, Comp. Science)/B.A III

TEACHERS - Mr. Chander Mohan, Mr. Naresh, Ms. Shivani, Ms. Sarita

SEM-V

Month	Week	Topic	Test/Assign.
N O V	3rd	Topology of real numbers: boundedness, infimum, supremum, limit points, neighbourhoods	
	4th	interior points, open sets, closed sets, closure of a set	
D E C	1st	Sequences: real sequences and their convergence, theorems on limits of sequences	Assignment
	2nd	bounded and monotonic sequences, cauchy's sequences, subsequences	
	3rd	convergence and divergence of infinite series, comparison tests, cauchy's general principle of convergence	
	4th	convergence and divergence of geometric series, hyperharmonic series,	
J A N	1st	Rabbe's test, De Morgan test, gauss test, cauchy's nth root and condensation test	
	2nd	Alternating series, Arbitrary series	
	3rd	Fourier's series, Dirichlet's conditions, Parseval's identity for Fourier series	
	4th	Fourier's series for even and odd functions, half range series, change of intervals	
F	1st	Riemann's integral, Darboux's theorem, integrability of continuous, monotonic functions and discontinuous functions	T e s t
	2nd	The fundamental theorem of integral calculus, mean value theorems of in	

May

E	3rd	Revision, Group Discussion
B	4th	Test

Course-Number Theory & Trigonometry:CML-508/BAMH303

Programme Name- B.A/BSc.(Non Med, Electronics, Comp. Science)III

Teachers- Ms. Ridhipal, Ms. Renu, Ms. Mamta

SEM-V

Month	Week	Topic	Test/Assign.
P S T E	3rd	Primes, Fundamental Theorem of Arithmetic	
	4th	Linear Diophantine equations in two variables.	
O C T	1st	Linear Congruences	Assignment
	2nd	Fermat's theorem, Wilson's theorem and its converse.	
	3rd	Divisibility, G.C.D.(Greatest Common Divisors), L.C.M.(Least Common Multiple).	
	4th	The number of divisors and the sum of divisors of a natural number n (The functions $d(n)$ and $s(n)$).	
N O V	1st	Complete Residue System and Reduced Residue System modulo m , Euler ϕ function.	Test
	2nd	Euler's Generalization of Fermat's theorem.	
	3rd	Chinese Remainder Theorem, Quadratic Residues.	
	4th	Moebius Function and Moebius Inversion Formula.	
D E C	1st	Legendre Symbols, Lemma of Gauss	
	2nd	Gauss Reciprocity law, Greatest integer function $[x]$.	
	3rd	Expansion of trigonometrical functions, Direct circular and their properties.	
	4th	Hyperbolic functions and their properties.	
J A N	1st	Inverse circular and hyperbolic functions and their properties, Logarithm of a complex quantity.	Assignment
	2nd	Gregory's series, Summation of trigonometric series.	
	3rd	Revision, Group Discussion	
	4th	Test	

Course Name-Business Mathematics-I:BC-105

Programme Name- BCom. I

Teachers- Mr. Chander Mohan, Ms. Kusum Beniwal

Sem-I

Month	Week	Topics	Assignment/Test
V O	3rd	Logarithm	
	4th	Anti-logarithm	
D E C	1st	Arithmetic Progression	1st Assignment
	2nd	Geometric Progression	
	3rd	Simple derivative of different functions	
	4th	Rules of differentiation	
J A	1st	Maxima and Minima of functions of one variable.	Minor Test
	2nd	Definition and Types of matrix.	
	3rd	Algebra of matrices, Properties of determinant.	

	4th	Adjoint of matrices, Elementary row and column operation, Finding inverse of matrices.	
F E B	1st	Solution of a system of linear equations having unique solution and involving not more than three variables.	2nd Assignment Revision Tests
	2nd	Certain different types of interest rates. Concept of present value And amount of sum.	
	3rd	Types of annuities. Present value and amount of an annuity.	
	4th	Valuation of simple loans and debentures, Problems relating to sinking funds.	

PROGRAMME NAME-B.B.A I
TEACHER-Mr. Jogender

COURSE NAME: ELEMENTS OF BUSINESS MATHEMATICS: BBA-105

SEM-I

Month	Week	Topic	Test/Assign.
N O V	3rd	Theory of sets- Meaning ,elements,types ,presentation and equality of sets	
	4th	Union ,intersection, complement and difference of sets ,venn diagram	
D E C	1st	Cartesian product of two sets ,application of set theory	Assignment
	2nd	Indices and logarithms ,arithmetic and geometric progressions and their business applications	
	3rd	Sum of first n natural numbers, sum of squares and cubes of first n natural number	
	4th	Permutations	
J A N	1st	Combinations	Minor test
	2nd	Binomial theorem ,Quadratic equations	
	3rd	Matrices-Types,Properties,Addition,Multiplication,Transpose,Inverse	
	4th	Properties of determinants, solution of simultaneous linear equation	
F E B	1st	Differentiation and Integration	
	2nd	Business application of Matrices	
	3rd	Revision,Group Discussion	
	4th	Test	

Programme Name-M.Sc. I
Teacher- Ms. Manjeet Kaur

Course Name- Algebra-MAL:511
SEM-I

Month	Week	Topic	Assignment/ Test
N O V	3rd	Zassenhaus's lemma, normal and subnormal series, composition series	
	4th	Schreier's theorem, Jordan -Holder theorem, commutators and their properties	
D E C	1st	Three subgroup lemma of P.Hall, central series, nilpotent groups	Assignment
	2nd	Upper and Lower central series and their properties, invariant and chief series	
	3rd	Solvable groups, derived series, field theory, Prime fields	
	4th	Extension fields, Algebraic and Transcendental extensions and their theorems	

MS

J A N	1st	Algebraically closed field, Conjugate elements	Minor
	2nd	Normal extensions, Separable and Inseparable extensions	
	3rd	Perfect fields, Construction with ruler and compass	
	4th	Finite Fields, Roots of unity, Cyclotomic polynomial, Primitive elements	
F E B	1st	Automorphisms of extensions, Galois extension, Fundamental theorem of Galois theory	
	2nd	Solutions of polynomial equations by radicals, insolvability of the general equation of degree five by radicals	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. I
Teacher-Ms. Kusum Beniwal

Course Name- Real Analysis-MAL:512

SEM-I			
Month	Week	Topic	Assignment/ Test
N D V	3rd	Definition and existence of Riemann-Stieltjes integral, properties of the integral, Integration and differentiation	1
	4th	Fundamental theorem of calculus, integration of vector valued function	
D E C	1st	Sequences and series of function, pointwise and uniform convergence, Cauchy criterion for uniform convergence	Assignment
	2nd	Weierstrass M-Test, Abel's and Dirichlet's tests, Uniform convergence and continuity	
	3rd	Uniform convergence and Riemann-Stieltjes Integration, Weierstrass Approximation theorem	
	4th	Power series, Uniqueness theorem for power series, Abel's Theorems	
J A N	1st	Functions of several variables, linear transformations, derivatives in an open subset, partial derivatives, derivatives of higher orders	Minor Test
	2nd	Taylor's theorem, Inverse function theorem, Implicit function theorem, Jacobians, Lagrange's multiplier method	
	3rd	extremum problems with constraints, Set functions	
	4th	Intuitive idea of measure, Elementary properties of measure, Measurable sets and their fundamental properties	
F E B	1st	Lebesgue measure of sets of real numbers, algebra of measurable sets, Borel sets	
	2nd	Equivalent formulation of measurable sets in terms of open, closed, Non Measurable sets	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. I
Teacher-Ms. Mamta Bishnoi

Course Name- MECHANICS-MAL:513
SEM-I

BM

Month	Week	Topic	Assignment/ Test
N O V	3rd	Moments and products of inertia, Theorems of parallel and perpendicular axes, principal axes	
	4th	The momental ellipsoid, Equimomental systems, Coplanar distributions, G	
D E C	1st	Holonomic and non holonomic systems, Scleronomic and Rheonomic systems, Lagrange's equations for a holonomic system	Assignment
	2nd	Lagrange's equations for a conservative and impulsive forces, Kinetic energy as quadratic function of velocities, Generalized potential, Hamilton's variables	
	3rd	Hamilton's variables, Donkin's theorem, Hamilton canonical equations, Cyclic coordinates, Routh's equations, Jacobi-Poisson theorem	
	4th	Hamilton's Principle, Principle of least action, Poincare Cartan Integral invariant, Whittaker's equations, Hamilton-Jacobi equation, method of separation of variables	
J A N	1st	Lagrange's brackets, condition of canonical character of transformation in terms of Lagrange brackets and poisson brackets	Minor Test
	2nd	Invariance of Lagrange brackets and poisson brackets under canonical transformations	
	3rd	Gravitation : Attraction and potential of rod, disc, spherical shells and sph	
	4th	Laplace and Poisson equations, Work done by self attracting systems	
F E B	1st	Distributions for a given potential, Equipotential surfaces, surface and solid harmonics	
	2nd	surface density in terms of surface harmonics	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. I
Teacher- Ms. Ridhipal

COURSE NAME: ORDINARY DIFFERENTIAL EQUATIONS-MAL:514
SEM-I

Month	Week	Topic	Assignment/ Test
N O V	3rd	Initial value problem and the equivalent integral equation, ε -approximate solution, Cauchy-Euler construction of an ε -approximate solution, Ascoli-Arzelà theorem	
	4th	Cauchy-Peano existence theorem, Lipschitz condition, Picard-Lindelöf theorem	
D E C	1st	solution of initial-value problems by Picard method, Approximate methods of solving first-order equations: Power series method, Numerical methods	Assignment
	2nd	Continuation of solutions, maximum interval of existence, Extension theorem, Dependence of solutions on initial conditions	
	3rd	Matrix method for homogeneous first order systems, nth order equations	

GA

	4th	Total differential equations: Conditions of integrability, methods of solution	Minor Te.
J A N	1st	Gronwall's differential inequality, comparison theorems involving differential inequalities	
	2nd	Zeros of solutions, Sturm's separation and comparison theorems, Oscillatory and non oscillatory equations	
	3rd	Riccati's equations and its solution, Pruffer transformation	
	4th	Sturm-Liouville boundary value problems	
F E B	1st	Lagrange's identity and green's formula for second order equation	
	2nd	properties of eigen values and eigen functions	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. I
Teacher- Mr. Naresh

COURSE NAME: COMPLEX ANALYSIS-I-MAL:515

Sem-I

Month	Week	Topic	Assignment/ Test
V O	3rd	Cauchy Riemann equations, Analytic functions, Reflection principle	
	4th	Complex Integration, Antiderivatives, Cauchy-Goursat theorem	
D E C	1st	Simply and multiply connected domains, Cauchy integral formula, Higher order derivatives	Assignment
	2nd	Morera's theorem, Cauchy's inequality, Liouville's theorem	
	3rd	The fundamental theorem of Algebra, Maximum Modulus principle, Schwarz lemma	
	4th	Poisson's formula, Taylor's series, Laurent's series	
J A N	1st	Isolated singularities, Meromorphic functions, Argument principle	Minor Test
	2nd	Rouche's theorem, Residues, Cauchy's residue theorem	
	3rd	Evaluation of integrals, Mittag-Leffler's expansion theorem	
	4th	Branches of many valued functions with special reference to $\arg z$, $\log z$	
F E B	1st	Bilinear transformations, their properties and classification	1)
	2nd	Examples of conformal mapping	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. I
Teacher- Ms. Mamta Bishnoi

COURSE NAME: PROGRAMMING WITH FORTRAN (THEORY)-MAL:516

SEM-I

Month	Week	Topic	Assignment/ Test
N O V	3rd	Computer Programming in FORTRAN 90/95: Numerical constants and variables, arithmetic expressions, implicit declaration, named constants, Input/output	
	4th	List directed Input/output statements, Format specifications	

ONE

D E C	1st	Declaration including KIND specifications, use of complex variables	Assignment
	2nd	Logical expressions and control flow, conditional flow, IF structure, Block DO loop	
	3rd	Counted controlled loops, arrays, input/output of arrays, arrays with variable size using ALLOCATABLE statement	
	4th	arrays handling functions, multidimensional arrays	
J A N	1st	Strings, declaration of character variables, character handling functions	Minor Test
	2nd	operators on strings, Subprograms, Types of Subprograms	
	3rd	Significance functions, subroutines, procedures with array arguments, Rec	
	4th	Derived types, Elements of derived type, arrays and derived type Processing files	
F E B	1st	Sequential file, Direct Access file, creating and closing a file	
	2nd	Pointers and Accessing elements using pointers with example	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name- MSc
Teacher- Ms. Mamta Bishnoi

COURSE : PROGRAMMING WITH FORTRAN (PRACTICAL)-MAL:517
SEM-I

Month	Week	Topics
V O	3rd	Program To find area of circle
	4th	Program to find area of triangle by Heron's formula
D E C	1st	Program To check leap year
		Program To find sum of digits of a number
	2nd	Program To find sum of sine series
		Program to Calculate Greatest Of Three Numbers
	3rd	Program To Find The Roots Of A Quadratic Equation
		Program to generate Fibonacci Series
J A N	4th	Program to find sum of cosine series
	1st	Program to find the sum of matrix
	2nd	Program to Check Whether The Number Is Prime or not
	3rd	Program To find transpose of a matrix
F E B	4th	Program To Find The trace of a matrix
	1st	Program to find product of matrix
	2nd	Program to generate first n prime numbers
	3rd	Revision

Programme Name- M.Sc. II
Teacher- Ms. Renu

COURSE NAME: TOPOLOGY-MAL631
Sem-III

Month	Week	Topic	Assignment/ Test
-------	------	-------	---------------------

N O V	3rd	Definitions and examples of topological spaces, Closed sets, Closure, Dense subsets, Neighbourhoods, Interior, Exterior and boundary points of a set	Assignment
	4th	Accumulation points and derived sets, Bases and subbases, Subspaces	
D E C	1st	Alternate methods of defining a topology in terms of Kuratowski Closure operator and neighbourhood systems, continuous functions and homeomorphisms	
	2nd	Compactness, Continuous functions and compact sets, basic properties of compactness, compactness and finite intersection property	
	3rd	Sequentially and countably compact sets, Local compactness and one point compactification	
	4th	Compactness in metric spaces, Equivalence of compactness, countable compactness and sequential compactness in metric spaces	
J A N	1st	Connected spaces, Connected spaces on the real line, Components, Locally connected spaces	Minor Test
	2nd	First and second Countable spaces, Lindelof's theorem, Seperable spaces, Second countability and searability	
	3rd	Seperation axioms, T_0 , T_1 and T_2 spaces, Their characterisation and proper	
	4th	Regular and normal spaces, Urysohn's Lemma, T_3 and T_4 spaces, complete regularity and normality	
F E B	1st	Product topological spaces, Projection topological spaces, Projection mapping	
	2nd	Tychonoff product topology in terms of standard sub base and its characterisations	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. II
Teacher- Ms. Kiran

COURSE NAME: PARTIAL DIFFERENTIAL EQUATIONS-MAL632
Sem-III

Month	Week	Topic	Assignment/ Test
N O V	3rd	Solution of Partial Differential Equations Transport Equation -Initial value Problem	17
	4th	Non-homogeneous Equation, Laplace's Equation - Fundamental solution	
D E C	1st	Mean value formulas, Properties of Harmonic functions, Green's function, Energy methods	Assignment
	2nd	Wave Equation -solution by spherical means, Non-homogeneous equations	
	3rd	Energy methods, Poisson's formula, Kirchoff's formula	
	4th	D'Alembert's formula, uniqueness of solution domain of dependence of solution	
	1st	Heat Equation-Fundamental solution, Solution of initial value problem, Non homogeneous equation	

DMY

Date is / /
Page No.

J A N	2nd	Mean value formula , Nonlinear First order PDE - Complete Integrals, Envelopes, Characteristics	Minor Test
	3rd	Hamilton-Jacobi Equations, Hamilton's ODE , Hopf-Lax formula, Weak solutions	
	4th	Representation of solutions- Separation of variables, Similarity solutions	
F E B	1st	Fourier and Laplace Transform , Hopf-Cole transform	
	2nd	Hodograph and Legendre Transforms, Potential functions	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Programme Name-M.Sc. II
Teacher- Ms. Sarita

COURSE NAME: MECHANICS OF SOLIDS-I-MAL633

SEM-III			
Month	Week	Topic	Assignment/ Test
N O V	3rd	Cartesian Tensor: Coordinate transformation, Cartesian Tensor of different order , Sum or difference and product of two tensors, Contraction theorem, Kronecker tensor, alternate tensor	
	4th	Scalar invariant of second order tensor, Quotient law	
D E C	1st	symmetric and skew symmetric tensors, Eigen values & vector of a symmetric second order tensor, gradient, divergence, curl of a tensor field	Assignment
	2nd	Analysis of strain: affine transformations, infinitesimal affine deformation, Geometrical interpretation of the components of strain	
	3rd	Strain quadric of cauchy, principal strains and invariants, General infinitesimal deformation, Saint-Venant's equations of compatibility	
	4th	Analysis of stress: Stress tensor, equations of equilibrium, transformation of coordinates	
J A N	1st	Stress of quadric of cauchy, principal stress and invariants	Minor Test
	2nd	Maximum normal and shear stresses	
	3rd	Equations of elasticity: Generalised Hooke's law, homogenous isotropic media	
	4th	Elastic moduli for isotropic media, equilibrium and dynamic equations for an isotropic elastic solid	
F E B	1st	Strain energy function and it's connection with Hooke's law	
	2nd	Beltrami-Michell compatibility equations, Saint-Venant's principle	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

BM

COURSE: COMPUTING LAB II (MATLAB PROGRAMMING & APPLICATIONS)-MAP634

Programme Name-M.Sc. II
Teacher- Mr. Chander Mohan

Sem-III

Month	Week	Topic	Assignment/ Test
N O V	3rd	User defined functions and function files: Main features of a function file, saving a function file, using a user defined function, comparison between script files and function files	Assignment/ Test
	4th	Anonymous and inline functions, using function handles for passing a function name for passing a function into a function, subfunctions, nested functions	
D E C	1st	Polynomials: Value of a polynomial, roots of a polynomial, addition, multiplication and division of polynomial, derivatives of polynomials	Assignment
	2nd	Curve fitting with polynomials, the polyfit function, curve fitting with functions other than polynomials	
	3rd	Applications in numerical analysis: Solution of an equation with one variable, numerical integration, ordinary differential equations	
	4th	Three dimensional plots: Line plots, mesh and surface plots, plots with special graphics, the view command	
J A N	1st	Symbolic math: Solving algebraic equations, differentiation, integration, solving an ODE	Minor Test
	2nd	Plotting symbolic expressions, numerical calculations with symbolic expressions	
	3rd	Numerical methods-Interpolation: Lagrange's interpolation formula, Newton Gregory Forward and backward interpolation formula	
	4th	Solution of a system of linear equations: Gauss Elimination method, Gauss Jordan method	
F E B	1st	Solution of ordinary differential equations: Euler's method, Euler's Modified method, Runge-Kutta 2nd & 4th order method	
	2nd	Group Discussion, Revision	
	3rd	Doubt session	
	4th		

Programme Name-M.Sc. II
Teacher- Mrs. Kanta

COURSE NAME: ANALYTIC NUMBER THEORY-MAL635

Sem-III

Month	Week	Topic	Assignment/ Test
N O V	3rd	Primes in certain arithmetical progression, Fermat numbers	
	4th	Mersenne numbers, Approximation of irrational numbers by rationals	
D E C	1st	Hurwitz's theorem, Irrationality of e & π	Assignment
	2nd	System of linear congruences Chinese remainder theorem, Quadratic residues and non-residues	
	3rd	Legendre's Symbol, Gauss Lemma and its applications	
	4th	Quadratic law of reciprocity Jacobi's symbol	

Mr

J A N	1st	Riemann Zeta function $\xi(s)$ and its convergence, application in prime numbers	Minor Test
	2nd	$\xi(s)$ as Euler's product, evaluation of $\xi(2)$ and $\xi(2k)$, Dirichlet series with simple properties, Introduction to modular function	
	3rd	Dirichlet series as analytic function & its derivative, Euler's products	
	4th	Euler's summation formula and some elementary asymptotic formula, Average order of the arithmetical functions $d(n)$, $\sigma_a(n)$, $\phi(n)$, $\mu(n)$ and $\Lambda(n)$	
F E B	1st	Partial sums of a Dirichlet product and their application to $\mu(n)$ and $\Lambda(n)$, Chebyshev's functions $\psi(x)$ and $\vartheta(x)$ and relation between them	
	2nd	Shapiro's Tauberian theorem and its applications, partial sums of the Mobius function, Selberg's asymptotic formula	
	3rd	Group Discussion, Revision	
	4th	Doubt session	

Examine Name-M.Sc. II
Teacher- Ms. Manjeet Kaur

COURSE NAME: ADVANCED DISCRETE MATHEMATICS-MAL637

SEM-III

Month	Week	Topic	Assignment/ Test
N O V	3rd	Formal Logic - Statements, Symbolic, Representation and Tautologies, Quantifiers	
	4th	Proposition Logic, Lattices - Lattices as partially ordered sets, Their properties, Lattices as Algebraic systems	
D E C	1st	Some special Lattices, e.g., complete, complemented and Distributive Lattices.	Assignment
	2nd	Sets Some Special Lattices e.g., Bounded, Complemented & Distributive Lattices.	
	3rd	Boolean Algebra - Boolean Algebra as Lattices, Various Boolean Identities,	
	4th	The Switching Algebra example, Join - Irreducible elements, Atoms and Minterms, Boolean Forms and Their Equivalence, Minterm Boolean Forms,	
J A N	1st	Sum of Products canonical Forms, Minimization of Boolean Functions, Applications of Boolean Algebra to Switching Theory	Minor Test
	2nd	Graph Theory - Definition of Graphs, Paths, Circuits, Cycles and Subgraphs, Induced Subgraphs, Degree of a vertex, Connectivity,	
	3rd	Planar Graphs and their properties, Euler's Formula for Connected Planar Graph, Complete and Complete Bipartite Graphs	
	4th	Trees, Spanning Trees, Minimal Spanning Trees, Matrix Representation of Graphs	
	1st	Euler's theorem on the Existence of Eulerian Paths and circuits, Directed Graphs, Indegree and outdegree of a vertex,	

E B	2nd	Weighted undirected Graphs, Strong Connectivity and Warshall's Algorithm, Directed Trees, Search Trees, Tree Traversals.
	3rd	Group Discussion, Revision
	4th	Doubt session

Programme Name- MScII
Teacher- Mr. Jogender

COURSE :PROGRAMMING WITH MATLAB (PRACTICAL)-MAP634
SEM-III

Month	Week	Topics
V O	3rd	Program for calculating roots, polynomial value at a point
	4th	Program to find addition, multiplication and division
D E C	1st	Program To find derivative of a polynomial
		Program for solving a non-linear equation
	2nd	Program To find maximum and minimum values of a polynomial
	3rd	Program To calculate numerical integration of function
		Program to fit a polynomial of degree three & plot it
	4th	Program for curve fitting with function other than polynomials
J A N	1st	Program to find value of y between points using interpolation
	2nd	Program to find coordinates x, y, z are given as function of parameter t
	3rd	Program To convert temperature from Fahrenheit to Celsius
	4th	Program To solve ODE using Euler's method
F E B	1st	Program to solve the function using Runge Kutta method
	2nd	Program to solve a 1st order ordinary differential equation
	3rd	Revision

Programme Name-BCA I
Teacher- Ms. Ridhipal

COURSE: ELEMENTS OF MATHEMATICAL FOUNDATIONS-BCA-PC(L)112
SEM-I

Month	Week	Topic	Assignment/ Test
V O	3rd	Sets, subsets and operations on sets	1st Assignment
	4th	Venn-Diagram of sets, power sets, equivalence relations on sets	
D E C	1st	Partition of a sets, partially ordered sets, boolean algebra	
	2nd	Basic properties of limits, continuous functions and classification of discontinuities	
	3rd	Derivatives of a functions, derivatives of logarithmic, exponential, trigonometric, inverse trigonometrically and hyperbolic functions	Minor Test
	4th	higher order derivatives	
J A N	1st	Addition , multiplication of matrices, laws of matrix algebra	
	2nd	Singular and non singular matrices ,inverse and rank of a matrix	
	3rd	Rank of the product of two matrices ,system of linear equation	
	4th	Characteristic equations of a square matrix, Cayley Hamilton theorem	
	1st	Eigen values and eigen vectors	

F E B	2nd	Eigen values and eigen vectors of symmetric and skew-symmetric, hermitian and skew-hermitian Group Discussion, Revision Doubt session	2nd Assignment
	3rd		
	4th		

Lesson planning for the semester started w.e.f. 16.10.2021

Name of Institute : Dayanand College, Hisar
Name of The teacher : Dr. Pramod Kumar (Assistant Professor)
Department : Defence Studies
Class & Section : BA – I Sem. (H)

Month	Class	Topic/Chapter (Theory & Practical)	Test Assignment
October	BA - I Sem	Theory: Defence studies: Concept, Scope, and Importance. Lab work: Map: Its definition, characteristics, classification, Management Information of Toposheet and its utility for Military.	
November	BA - I st Sem	Theory: Defence Studies: Its relations with other disciplines –Geography, Economics, Political Science, History, Psychology and Sociology. Meaning and Concept of War, Strategy and Tactic. Lab work: Conventional Sign: Military & Geographical. Grid System: Four Figure and Six Figure Map References. Sheet Number: Million Sheets, 'Quarter-Inch Sheets', 'Half-inch Sheet', 'One-inch Sheet' and 'Index of Sheets'.	Assignment
December	BA - I st Sem	Theory : Principal of War: ABC warfare (Atomic, Biological, or chemical) Lab work: Scale: Definition, Three Methods of representing Scale Inter-Conversion of Statement into R.F. Constructions of Simple Scale Line, Time and Diagonal Scale; Methods of Finding North Direction.	Test
January	BA - I st Sem.	Theory: Defence Mechanism of India & Rank Structure of Armed Forces. Lab work: Liquid Prismatic Compass – Functions of its various Parts; Rank Structure of Armed Forces.	Assignment
February	BA - I st Sem	Revision	


 In-Charge

Dept of Defence Studies

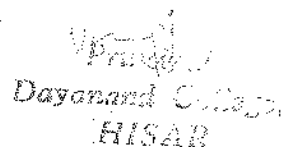
Lesson planning for the semester started w.e.f. 16.10.2021

Name of Institute : Dayanand College, Hisar
Name of the Teacher : Dr. Pramod Kumar (Assistant professor)
Department : Defence Studies
Class & Section : B.A – III Sem (B)

Month	Class	Topic/Chapter (Theory)	Test/Assignment
October	BA- III Sem	Meaning of National Defence and Security; Essential of national defence: geographical factors, economic factors, international political condition, defence mechanism of modern state.	
November	BA - III Sem	India's defence problem in 21 st century; India's defence policy; Nuclear policy of India.	Assignment
December	BA - III Sem	Civil Military Relations of India; Civil Defence ; Military Aid to Civil Administration	Test
January	BA - III Sem	War Finance Taxation, Borrowing And Inflation; Cost Of War and Economic Mobilization In War.	Assignment
February	BA- III Sem	Revision	


 In-Charge

Dept of Defence Studies


 Dayanand College
 HISAR

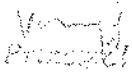
Lesson planning for the semester started w.e.f. 16.10.2021

Name of Institute : Dayanand College, Hisar
Name of The teacher : Dr. Ravinder Kumar
Department : Defence Studies
Class & Section : B.A – IIIrd Sem. (B)

Month	Class	Topic/Chapter (Practical)	Test/Assignment
October	BA- III Sem	Sand Model Meaning, Importance and Preparing.	
November	BA- III Sem	Detailed study of an infantry platoon including Organisation, Weapon And Equipments. Study of field crafts with reference to ground, cover, camouflage, concealment and observation.	Assignment
December	BA- III Sem	Application of fire fire control and fire control orders, practical formations – section and platoon.	Test
January	BA- III Sem	Verbal orders; 400-800 words essay on any topics of the contemporary and current strategic issues related with Internal Security Of India	Assignment
February	BA- III Sem	Revision	


In-Charge

Dept of Defence Studies


Principal
Dayanand College,
HISAR

Lesson planning for the semester started w.e.f. 16.10.2021

Name of Institute : Dayanand College, Hisar
Name of The teacher : Mr. Ravinder Kumar (Assistant professor)
Department : Defence Studies
Class & Section : B.A – V Sem (C)

Month	Class	Topic/Chapter (Theory & Practical)	Test/ Assignment
October	BA - V Sem	Theory: Science and Technology: Definition and concept; Emerging Technology and its impact and weapons; Electronic warfare: Concept and application. Lab Work: IT: Network LAN, WAN, Military sensor etc; RADAR and its signification, Types, Posts	
November	BA - V Sem	Theory: RADAR and its significance, Basic types application. Information Technology and its impact on warfare (i) Communication Tech. (ii) Military Tech. DRDO : Its role in weapons development (a) Armoured Vehicles : Tanks and APC's (b) Aircraft UAV's (c) Submarine and Aircraft Carrier (d) Missiles : Range, Introductions, Parts and Specification . Prithvi, Brahmos Agni, K-4, SLBM. Lab Work: Electronic Warfare in terms of Lasers, ECM, ECCM ; Cyber Security : Information, Images, Techniques of cyber Attack	Assignment
December	BA - V Sem	Theory: Cyber Warfare / Security (i) Introduction to cyber Technology, Network, LAN, WAN (ii) Types of Cyber Crime : Hacking, Password Crack, Theft etc. (iii) Impact of Cyber Crimes on National Security, Impact of Cyber Crime on Armed Forces, National Economy / Market and Citizen Security. (iv) Cyber Law : National Cyber Security policy 2013; India ,s position in Science and Technology : War Technology and development . Lab Work : Ballistic Missiles : SSM, SAM, SLBM, SRBM, IRBM, ICBM; Project Report / Field visit	Test
January	BA - V Sem	Theory: War Finance Taxation, Borrowing And Inflation; Cost Of War and Economic Mobilization In War. Lab Work: Space technology: Various Satellite in space for military use, Military importance of Satellite, characteristics of Military Satellite.	Assignment
February	BA - V Sem	Revision	


 In-Charge

Dept of Defence Studies


Principal

16/10/2021

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher with designation : Mr. Hemant Singh Tanwar (Assistant Professor)
 Department : Defence Studies
 Section : B.A – Ist Sem. (H)

Month	Class	Topic/Chapter	Test/Assignment
November	B.A.-I st Sem.	Theory: Defence studies: Concept, Scope, and Importance. Lab work: Map: Its definition, characteristics, classification, Management Information of Toposheet and its utility for Military.	
December	B.A. I st Sem.	Theory: Defence Studies: Its relations with other disciplines – Geography, Economics, Political Science, History, Psychology and Sociology. Meaning and Concept of War, Strategy and Tactic. Lab work: Conventional Sign: Military & Geographical. 3. Grid System: Four Figure and Six Figure Map References. 4. Sheet Number: Million Sheets, 'Quarter-Inch Sheets', 'Half-inch Sheet', 'One-inch Sheet' and 'Index of Sheets'.	Assignment
January	B.A.- I st Sem.	Theory : Principal of War; ABC warfare (Atomic, Biological, or chemical) Lab work: Scale: Definition, Three Methods of representing Scale Inter-Conversion of Statement into R.F. Constructions of Simple Scale Line, Time and Diagonal Scale; Methods of Finding North Direction.	Assignment
February	B.A.- I st Sem.	Theory: Defence Mechanism of India & Rank Structure of Armed Forces. Lab work: Liquid Prismatic Compass – Functions of its various Parts; Rank Structure of Armed Forces.	Test
March	B.A.- I st Sem.	Revision	


 In-Charge

Dept of Defence Studies

Principal
 Dayanand College,
 HISAR

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher : Mr. Hemant Singh Tanwar (Assistant professor)
 Department : Defence Studies
 Section : B.A – IIIrd Sem. (B)

Month	Class	Topic/Chapter	Test/Assignment
November	B.A.- III rd Sem.	Theory: Meaning of National Defence and Security; essential of national defence: geographical factors, economic factors, international political condition, defence mechanism of modern state. Practical: Sand Model Meaning, Importance and Preparing.	
December	B.A.- III rd Sem.	India's defence problem in 21 st century; India's defence policy; Nuclear policy of India. Practical: Detailed study of an Infantry platoon including Organisation, Weapon And Equipments. Study of field crafts with reference to ground, cover, camouflage, concealment and observation.	Assignment
January	B.A.- III rd Sem.	Civil Military Relations of India; Civil Defence; Military Aid to Civil Administration. Practical: Application of fire control and fire control orders; practical formations – section and platoon.	Assignment
February	B.A.- III rd Sem.	War Finance Taxation, Borrowing And Inflation; Cost Of War and Economic Mobilization In War. Practical: Verbal orders, 400-800 words essay on any topics of the contemporary and current strategic issues related with Internal Security Of India.	Test
March	B.A.- III rd Sem.	Revision	


 In-Charge

Dept of Defence Studies

V. Singh
 Professor
 Dayanand College,
 Hisar

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher : Mr. Pramod Kumar (Assistant professor)
 Department : Defence Studies
 Section : B.A – Vth Sem. (C)

Month	Class	Topic/Chapter	Test/Assignment
November	B.A.- V th Sem.	THEORY: Science and Technology: Definition and concept; Emerging Technology and its impact and weapons; Electronic warfare: Concept and application. LAB WORK: IT: Network LAN, WAN, Military sensor etc; RADAR and its signification, Types, Posts	
December	B.A.- V th Sem.	THEORY: RADAR and its significance, Basic types application. Information Technology and its impact on warfare (i) Communication Tech. (ii) Military Tech. DRDO : Its role in weapons development (a) Armoured Vehicles : Tanks and APC's (b) Aircraft UAV's (c) Submarine and Aircraft Carrier (d) Missiles : Range, Introductions, Parts and Specification . Prithvi, Brahmos Agni, K – 4, SLBM. LAB WORK: Electronic Warfare in terms of Lasers, ECM, ECCM ; Cyber Security : Information, Images, Techniques of cyber Attack	Assignment
January	B.A.- V th Sem.	THEORY: Cyber Warfare / Security (i) Introduction to cyber Technology, Network, LAN, WAN (ii) Types of Cyber Crime : Hacking, Password Crack, Theft etc. (iii) Impact of Cyber Crimes on National Security, Impact of Cyber Crime on Armed Forces, National Economy / Market and Citizen Security. (iv) Cyber Law : National Cyber Security policy 2013; India 's position in Science and Technology : War Technology and development . LAB WORK : Ballistic Missiles : SSM, SAM, SLBM, SRBM, IRBM, ICBM; Project Report / Field visit	Assignment
February	B.A.- V th Sem.	THEORY: War Finance Taxation, Borrowing And Inflation; Cost Of War and Economic Mobilization In War. LAB WORK: Space technology: Various Satellite in space for military use, Military importance of Satellite, characteristics of Military Satellite.	Test
March	B.A.- V th Sem.	Revision	


 In-Charge

Dept of Defence Studies

Pramod Kumar
 Dayanand College
 Hisar

Lesson planning for the semester started w.e.f. 18.11.2020

Name of Institute : Dayanand College, Hisar
 Name of The teacher : Mr. Pramod Kumar (Assistant professor)
 Department : Defence Studies
 Section : B.A – VthSem. (C)

Month	Class	Topic/Chapter	Test/Assignment
November	B.A.- V th Sem.	THEORY: Science and Technology: Definition and concept; Emerging Technology and its impact and weapons; Electronic warfare: Concept and application. LAB WORK: IT: Network LAN, WAN, Military sensor etc; RADAR and its signification, Types, Posts	
December	B.A.- V th Sem.	THEORY: RADAR and its significance, Basic types application. Information Technology and its impact on warfare (i) Communication Tech. (ii) Military Tech. DRDO : Its role in weapons development (a) Armoured Vehicles : Tanks and APC"s (b) Aircraft UAV"s (c) Submarine and Aircraft Carrier (d) Missiles : Range, Introductions, Parts and Specification . Prithvi, Brahmos Agni, K – 4, SLBM. LAB WORK: Electronic Warfare in terms of Lasers, ECM, ECCM ; Cyber Security : Information, Images, Techniques of cyber Attack	Assignment
January	B.A.- V th Sem.	THEORY: Cyber Warfare / Security (i) Introduction to cyber Technology, Network, LAN, WAN (ii) Types of Cyber Crime : Hacking, Password Crack, Theft etc. (iii) Impact of Cyber Crimes on National Security, Impact of Cyber Crime on Armed Forces, National Economy / Market and Citizen Security. (iv) Cyber Law : National Cyber Security policy 2013; India „s position in Science and Technology : War Technology and development . LAB WORK : Ballistic Missiles : SSM, SAM, SLBM, SRBM, IRBM, ICBM; Project Report / Field visit	Assignment
February	B.A.- V th Sem.	THEORY: War Finance Taxation, Borrowing And Inflation; Cost Of War and Economic Mobilization In War. LAB WORK: Space technology: Various Satellite in space for military use, Military importance of Satellite, characteristics of Military Satellite.	Test
March	B.A.- V th Sem.	Revision	


 In-Charge

Dept of Defence Studies

V. K. Singh
 18/11/2020
 Dayanand College
 Hisar

LESSON PLAN

Name of the Assistant Prof. : Preeti


Class and Section : B.A (1st Sem) C

Subject : Music Vocal (MUSV 101)

Lesson Plan : From Nov.to Dec.2021

Nov.2021
Topic covered
• Introduction to music and importance in music of our life
• Importance of swars in music
• Alankars in music and notation of national anthem
• Notation of Raag Aasawari
• Parts of Tanpura
• Notation of Raag Bhupali
• Notation of Drut khayal in Raag Bhupali and Aasawari in Teen -taal
• Detailed knowledge of Sangeet Ratnakar

Dec.2021
• Detailed study of Raag Aasawari
• Pattern of Teen-taal with Thekas
• Definition of Dhawni , Nad , Vadi , Samvadi , Anuvadi and uses in music
• Test And Revision


Incharge
Dept of Music

Principal
Dayanand College
HISAR

LESSON PLAN

Name of Assistant Prof. : Preeti


Class and Section : B.A. 2nd (3rd Sem.)F

Subject : Music Vocal (MSUV 201)

Lesson Plan : From Nov.to Dec.2021

Nov.2021
• Introduction of Raag Malkauns with their Importance
• Detailed description of Raag Malkauns
• Detailed study of Dhrupad , Dhamar
• Detailed study of Khayal , Thumri and tappa
• Shorts notes of Avirbhav , Tpo bhav , Nayak – Nayaki and Jatie of Ragas
• Importance of film music
• Importance of classical music
• Detailed study of Raga Jal-jalwanti
• Thekas of Deepchandi tal with dugun and chaugun

Dec.2021
• Role of film music in popularizing classical music
• Contribution of shrimati Amanker kishori in music
• Contribution of Ustad bade gulam alikhan in music
• Shorts notes of Avirbhav , Tpo bhav , Nayak – Nayaki and Jatie of Ragas


Incharge
Depd-7 music

Principal
Dayanand College
HISAR

LESSON PLAN

Name of the Assistant Prof. : Preeti

Class and Section : B.A 3rd (5th Sem) C

Subject : Music Vocal (MUSV 301)

Lesson Plan : From Nov.to Dec.2021

Nov.2021
• Introduction to raag bhimpalasi
• Detailed description of raag bhimpalasi
• Tal dhamar with dugun , tigan and chaugun layakaries
• Thekas of tal suttal with dugun tigan layakaries
• Introduction of time theory of ragas and importance of time
• Detailed study of the time theory of ragas
• Class and assignment
• Contribution of Acharya K.C.D. Brihaspati in music
• Lalit kalaon me sangeet ka sthan
• Contribution of P.T Vinayak Rao Patwardhan and Lal Mani Mishra in music
• Raga Bhimpalasi with teen taal
Dec.2021
• Origin and development of notation system
• Merits and demerits of notation system
• Introduction of lalit kala in music
Class test and Revision

(25)
Principal
Dayanand College
HISAR

संस्कृत-विभाग
दयानन्दकॉलेज, हिसार

नाम : सीमाचौधरी
विषय : संस्कृत
कक्षा : बी.ए. प्रथमवर्ष
सत्र : प्रथम

संस्कृत पाठ योजना (2020-21)

मास	कक्षा	विषय/अध्याय	परीक्षा/प्रदत्तकार्य
नवम्बर 20	बी ए प्रथमवर्ष	पाठ्यक्रमपरिचय हितोपदेश, (व्याख्या) व्याकरण : शब्द रूप	
दिसम्बर 20	बी ए प्रथमवर्ष	हितोपदेश, (व्याख्या) व्याकरण : धातु-रूप	प्रदत्तकार्य
जनवरी 21	बी ए प्रथमवर्ष	नीतिशतकम् व्याकरण : सन्धि	कक्षापरीक्षा
फरवरी 21	बी ए प्रथमवर्ष	नीतिशतकम् व्याकरण	प्रदत्तकार्य
मार्च 21	बी ए प्रथमवर्ष	पुनरावृत्ति	



Principal
Dayanand College
HISAR

संस्कृत-विभाग

दयानन्दकॉलेज, हिसार

नाम :- सीमा चौधरी
विषय :- संस्कृत
कक्षा :- बी.ए. द्वितीय वर्ष
सत्र :- तृतीय

संस्कृत-पाठ-योजना (2020-21)

मास	कक्षा	विषय/अध्याय	परीक्षा/प्रदत्तकार्य
नवम्बर 20	बी.ए. द्वितीय वर्ष	पाठ्यक्रमपरिचय भास-जीवन परिचय पंचरात्रम् : प्रथमअंक व्याकरण: परिभाषिक शब्द	
दिसम्बर 20	बी.ए. द्वितीय वर्ष	पंचरात्रम् : द्वितीय अंक व्याकरण: समास, प्रत्यय	प्रदत्तकार्य
जनवरी 21	बी.ए. द्वितीय वर्ष	पंचरात्रम् : तृतीय अंक व्याकरण: प्रत्याहार, पत्र लेखन	कक्षापरीक्षा
फरवरी 21	बी.ए. द्वितीय वर्ष	संस्कृतसाहित्य काइतिहास	प्रदत्तकार्य
मार्च 21	बी.ए. द्वितीय वर्ष	पुनरावृत्ति	

Principal
Dayanand College
HISAR

संस्कृत-विभाग
दयानन्दकॉलेज, हिसार

नाम :- सीमाचौधरी
विषय :- संस्कृत
कक्षा :- बीए तृतीय वर्ष
सत्र :- पंचम

संस्कृत पाठ योजना-2020-21

मास	कक्षा	विषय/अध्याय	परीक्षा/प्रदत्तकार्य
नवम्बर 20	बी ए तृतीय वर्ष	पाठ्यक्रमपरिचय कालिदासका जीवन परिचय अभिज्ञान-शाकुन्तलम् : प्रथमअंक, द्वितीय अंक	
दिसम्बर 20	बी ए तृतीय वर्ष	अभिज्ञान-शाकुन्तलम् : तृतीय अंक संस्कृतसाहित्य काइतिहास व्याकरण: कारक-प्रकरण	प्रदत्तकार्य
जनवरी 21	बी ए तृतीय वर्ष	अभिज्ञान-शाकुन्तलम् : चतुर्थअंक, व्याकरण: अलंकार	कक्षापरीक्षा
फरवरी 21	बी ए तृतीय वर्ष	वैदिकसंस्कृतसाहित्य काइतिहास	प्रदत्तकार्य
मार्च 21	बी ए तृतीय वर्ष	पुनरावृत्ति	



Principal
D. N. D. College
HISAR

संस्कृत-विभाग
दयानन्दकॉलेज, हिसार

नाम :- सीमाचौधरी
विषय :- संस्कृत
कक्षा :- बीएएससीद्वितीय वर्ष(ए 2)
सत्र :- तृतीय

संस्कृत . पाठ.योजना (2020-21)

मास	कक्षा	विषय/अध्याय	परीक्षा/प्रदत्तकार्य
नवम्बर' 20	बी. एस सीद्वितीय वर्ष	पाठ्यक्रमपरिचय ईशास्तव वयं त्वां भजामः धर्मज्ञरामः व्याकरणः शब्द रूप	
दिसम्बर' 20	बी. एस सीद्वितीय वर्ष	साधुव्रतचर विनीषणस्य विलापः गद्य पाठपरिचय अनुशासनम् सद्वृत्ताम्	प्रदत्तकार्य
जनवरी' 21	बी. एस सीद्वितीय वर्ष	बुद्धिर्यस्यबलतस्य नीलवर्णः शृगालः शशकस्य चातुर्यम्	कक्षापरीक्षा
फरवरी' 21	बी. एस सीद्वितीय वर्ष	व्याकरणः सन्धि	प्रदत्तकार्य
मार्च' 21	बी. एस सीद्वितीय वर्ष	पुनरावृत्ति	



Principal
Dayanand College
HISAR

संस्कृत-विभाग
दयानन्दकॉलेज, हिसार

नाम :- डॉ. बबलू शर्मा
विषय :- संस्कृत
कक्षा :- बी.एस. सी. द्वितीय वर्ष (ए. 1, बी. सी. डी. ई. एफ.)
सत्र :- तृतीय

संस्कृत . पाठ. योजना (2020-21)

मास	कक्षा	विषय/अध्याय	परीक्षा/प्रदत्तकार्य
नवम्बर' 20	बी. एस. सी. द्वितीय वर्ष	पाठ्यक्रमपरिचय ईशस्तवः वयं त्वां भजामः धर्मज्ञरामः व्याकरण: शब्द रूप	
दिसम्बर' 20	बी. एस. सी. द्वितीय वर्ष	साधुव्रतचर विभीषणस्य विलापः गद्य पाठपरिचय अनुशासनम् सद्वृत्तम्	प्रदत्तकार्य
जनवरी' 21	बी. एस. सी. द्वितीय वर्ष	बुद्धिर्धनस्य बलतस्य नीलवर्णः शृगालः शशकस्य चातुर्यम्	कक्षापरीक्षा
फरवरी' 21	बी. एस. सी. द्वितीय वर्ष	व्याकरण: सन्धि	प्रदत्तकार्य
मार्च' 21	बी. एस. सी. द्वितीय वर्ष	पुनरावृत्ति	



Principal
Dayanand College
HISAR

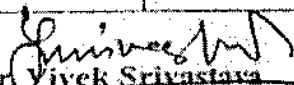
DAYANAND COLLEGE, HISAR
 Department of Biotechnology
LESSON PLAN (2020-2021)
 Semester-I (M. Sc. -I) year
 Submitted By: - Dr. Asha Rani
 Cell Biology
 (BTL 513)


Sr. No.	Month	Topics
1	November 5, 2021	Course outcomes discussion.
2	November 6 to November 15, 2020	Structural organization and function of intracellular organelles: Cell wall, nucleus, mitochondria, Golgi bodies, lysosomes, endoplasmic reticulum, peroxisomes, plastids, vacuoles, chloroplast, structure & function of cytoskeleton and its role in motility
3	November 14, 2021	Sunday
4	November 15, 2021 to November 20, 2021	Membrane structure and function: Structure of model membrane, lipid bilayer and membrane protein diffusion, osmosis ion channels, active transport, membrane pumps, mechanism of sorting and regulation of intracellular transport, electrical properties of membranes
5	November 21, 2021	Sunday
6	November 22, 2021 to November 23, 2021	Cell division and cell cycle: Mitosis and meiosis, their regulation,
7	November 24, 2021	Holiday
8	November 25-27, 2021	Steps in cell cycle regulation and control of cell cycle.
9	November 28, 2021	Sunday

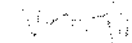
Principal

Date: 11/11/2021
Page No. 10

10	November 29,2021 to 4,December 2021	Cell signaling Hormones and their receptors, cell surface receptor, signaling through G-protein coupled receptors, signal transduction pathways, second messengers and regulation of signaling pathways
11	5,December 2021	Sunday
12	December 6,2021 to December 11,2021	Cellular communication: general principles of cell communication, cell adhesion and roles of different adhesion molecules, gap junctions, extracellular matrix, integrins. Neurotransmission and its regulation
13	December 12,2021	Sunday
14	December 13,2021 to December 18,2021	Cancer Genetic rearrangements in progenitor cells, oncogenes, tumor suppressor genes, cancer and the cell cycle, virus-induced cancer, metastasis, interaction of cancer cells with normal cells, apoptosis, therapeutic interventions of uncontrolled cell growth. Photosynthesis and Respiration: Photosynthetic apparatus, light reaction, cyclic and noncyclic photoinduced electron flow
15	December 19,2021	Sunday
16	December 20,2021 to December 23,2021	C3 and C4 cycle and their regulation and CAM pathway. Photorespiration, dark phase of photosynthesis.
17	December 24,2021	Assignment Submission.
18	December 25,2021	Christmas Holiday.


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. ASHA RANI
 (Assistant Professor)
 Subject Tutor

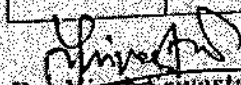

 Principal
 Dayanand College,
 HISAR


DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- I (M. Sc. -I) year
Submitted By: - Dr. Ritu Saharan
General and Applied Microbiology
(BTL 514)

Sr. No.	Month	Topics
1	November 5, 2021	Course outcomes discussion.
2	November 6 to November 15, 2020	Introduction to Microbiology: Historical background and scope of Microbiology. Ubiquitous nature of microorganisms. Impact of microbes on human affairs. Structure of prokaryotic and eukaryotic cell. Differences between Eubacteria, Archaeobacteria and Eukaryotes. Salient features of different groups of microorganisms such as bacteria, fungi, protozoa and algae including their morphological features, mode of reproduction and cell cycle.
3	November 14, 2021	Sunday
4	November 15, 2021 to November 20, 2021	Nutrition and Classification: Principles of microbial nutrition- Chemoautotrophs, chemoheterotrophs, photoautotrophs and photoheterotrophs. Basic principles and techniques used in bacterial classification. Phylogenetic and numerical taxonomy. New approaches of bacterial classification including DNA hybridization, ribosomal RNA sequencing and characteristics of primary domains. Major groups of bacteria based on latest edition of Bergey's manual
5	November 21, 2021	Sunday
6	November 22, 2021 to November 23, 2021	Viruses: General characteristics, structure, and classification of plant, animal and bacterial viruses. Replication of viruses. Lytic and lysogenic cycle in bacteriophages.
7	November 24, 2021	Holiday
8	November 25-27, 2021	Brief account of Retroviruses, Viroid's, Prions and emerging viruses such as HIV, Avian and swine flu viruses

Principal
Dayanand College,
HISAR

9	November 28, 2021	Sunday
10	November 29, 2021 to 4, December 2021	Microbial Growth: The definition of microbial growth. Growth in batch culture. Mathematical representation of bacterial growth. Bacterial generation time. Specific growth rate. Monoculture, Diauxic and synchronized growth curves
11	5, December 2021	Sunday
12	December 6, 2021 to December 11, 2021	Measurement of microbial growth. Factors affecting microbial growth. Brief account of growth in fungi. Culture collection and maintenance of microbial cultures.
13	December 12, 2021	Sunday
14	December 13, 2021 to December 18, 2021	Control of Microorganism: Control of Microorganism by physical and chemical agents. Antiseptics and disinfectants. Narrow and broad spectrum antibiotics. Antifungal antibiotics, Mode of action of antimicrobial agents. Antibiotic resistance mechanisms.
15	December 19, 2021	Sunday
16	December 20, 2021 to December 23, 2021	Microbial Ecology: Microbial flora of soil, Interaction among microorganisms in environment. Symbiotic associations- types, functions and establishment of symbiosis. Brief account of biological nitrogen fixation.
17	December 24, 2021	Assignment Submission.
18	December 25, 2021	Christmas Holiday.


 Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


 Dr. RITU SAHARAN
 (Assistant Professor)
 Subject Tutor

Principal
 Dayanand College,
 HISAR

DAYANAND COLLEGE, Hisar
Department of Biotechnology


Lesson Plan 2020-2021
Semester I (M. Sc. -I) year

Paper BTL 512

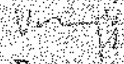
SUBJECT: Biomolecules & Metabolism

Sr. No.	Date	Topics
1	January 1, 2021 to January 14, 2021	Carbohydrates; Introduction, classification, structures, Biological significance. Glycolysis, citric acid cycle.
2	January 15, 2021	Problem taken
3	January 16, 2021 to January 21, 2021	Gluconeogenesis, pentose phosphate pathway. Oxidative phosphorylation. Proteins: Introduction, classification, structures, Biological significance
5	January 22, 2021	Assignments given
6	January 23, 2021 to January 27, 2021	Degradation of Amino acids. Urea Cycle. Biosynthesis of Amino Acids
7	January 28, 2021	Seminars taken
8	January 28, 2021 to January 31, 2021	Biosynthesis of Amino Acids. Tertiary structure of proteins, Ramachandran plot.
9	February 1, 2021 to February 7, 2021	Lipids: Introduction, classification, structures, Biological significance. Biosynthesis of Fatty acids Degradation of fatty acids Sterols
10	February 8, 2021 to February 14, 2021	Lipids: Introduction, classification, structures, Biological significance Biosynthesis of Fatty acids Degradation of fatty acids Sterols
11	February 15, 2021 to February 19, 2021	Nucleic acids and vitamins; Introduction, classification, structures, Biological significance
12	February 20, 2021	Assessment test

Vijay
Principal
 Dayanand College,
 HISAR


Dr. Vivek Srivastava
(Associate Professor)
Head, Dept. of Biotechnology


Dr. Ritu Saharan
(Assistant Professor)


Principal
Deyanand College,
HLSAR

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- I (M. Sc.-I) year

Introductory Biotechnology
(BTL 511)

Sr. No.	Month	Topics
1.	January 1, 2021	Biotechnology: An overview-definition, scope and importance of Biotechnology
2	January 2, 2021	HTET Exam
3	January 3, 2020	Sunday
4	January 4, 2021 to January 16, 2021	Concept of Recombinant DNA technology and Gene Cloning
5	January 17, 2021	Sunday
6	January 18, 2021 to January 25, 2021	Microbial Biotechnology: A brief account of microbes in industry and agriculture, Metabolic engineering for over production of metabolites.
7	January 26, 2021	Holiday
8	January 27, 2021	Assign the Assignments and Assessment Test.
9	January 28, 2021	Solve Doubts and Difficulties.
10	January 28, 2021 to February 6, 2021	Plant Biotechnology: Introduction to plant tissue culture and its applications, Gene transfer methods in plants, Transgenic plants (A brief introduction), Chloroplast and mitochondria engineering.
11	February 7, 2021	Sunday
12	February 8, 2021 to February 12, 2021	Animal Biotechnology: <i>In-vitro</i> fertilization and embryo transfer in humans and livestock, Transfection techniques and transgenic animals. Animal Cloning.

Principal

Date: / /

SAR

13	February 13,2021	Assesment Test.
14	February 14,2021	Sunday
15	February 15,2021 to February 20,2021	Environmental Biotechnology: (A brief account) Role of biotechnology in pollution control, Sewage treatment, Energy management, Bioremediation, Restoration of degraded lands and Conservation of biodiversity.
16	February 21,2021	Sunday
17	February 22,2021 to February 27,2021	Medical Biotechnology: (A brief account) Biotechnology in medicine, Vaccines, Diagnostic, Forensic, Gene therapy, Nano Medicine & Drug Delivery Cell & Tissue Engineering, Stem Cell therapy.
18	February 28,2021	Sunday
19	March 1,2021 to March6,2021	Nano Science & Technology: An Overview, Insights and intervention into the Nano world, Important Developments, Societal implications & Ethical issues in Nanotechnology, Applications of Nanobiotechnology in different areas.
20	March7,2021	Sunday
21	March 8,2021 to March 13,,2021	Bioinformatics: (A brief account) Importance, Scope of Bioinformatics, world wide web as a tool, Bioinformatics institutes and databases, Bioinformatics training & limitations.
22	March 14,2021	Sunday
23	March 15,2021	Bio-business and Bio-safety, Biotechnology for developing countries and IPR
24	March 16,2021	House test
25	March 17,2021 to March 20,2021	Revision and problems taken

Vivek Srivastava

Dr. Vivek Srivastava
(Associate Professor)
Head, Dept. of Biotechnology

Asha

Dr. Asha
(Assistant Professor)
Subject Tutor

Principal
Dayanand College,
HISAR


DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2020-2021)
Semester- III (M. Sc.-II) year

Molecular Genetics
(BTL 533)

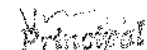
Sr. No.	Month	Topics
1.	January 1,2021	Inheritance: Historical background
2	January 2,2021	HTET Exam
3	January 3,2020	Sunday
4	January 4,2021 to January 16,2021	Extra chromosomal inheritance, Inheritance of quantitative traits, Sex linked, Sex influenced and sex limited traits. Molecular Organizations of Chromosomes: Viral and bacterial chromosomes. Nucleosome and chromatin structure
5	January 17,2021	Sunday
6	January 18,2021 to January 25,2021	Structure of centromere and telomere, Euchromatin and heterochromatin, Polytene and lamp brush chromosomes, Genome complexity, Linkage and recombination of gene
7	January 26,2021	Holiday
8	January 27,2021	Assign the Assignments and Assessment Test.
9	January 28,2021	Solve Doubts and Difficulties.
10	January 28,2021 to February 6,2021	Gene mapping by three point test cross, Tetrad analysis, Positive and negative interference, Molecular mechanism of recombination, Post-meiotic segregation, . Mapping through somatic cell hybridization
11	February 7,2021	Sunday

Principal
Dayanand
Hisar

12	February 8, 2021 to February 12, 2021	Mutation: Molecular mechanism of spontaneous mutations, Molecular mechanism of mutations induced by known chemical mutagens, Types of DNA repair, Molecular mechanism of suppression, Somatic mutations.
13	February 13, 2021	Assesment Test.
14	February 14, 2021	Sunday
15	February 15, 2021 to February 20, 2021	Gene Concept: Classical concept, Fine structure of the gene, Molecular concept of the gene
16	February 21, 2021	Sunday
17	February 22, 2021 to February 27, 2021	Pseudogenes, Overlapping genes, Oncogenes, Repeated genes, Gene amplification
18	February 28, 2021	Sunday
19	March 1, 2021 to March 6, 2021	Bacterial and Viral Genetics: Transformation, Conjugation and Transduction, Molecular mechanism of recombination in bacteria,
20	March 7, 2021	Sunday
21	March 8, 2021 to March 15, 2021	IS and Tn elements in bacteria, <i>E.coli</i> recombination system, Bacterial plasmids, Lytic cascade and lysogenic repression
22	March 16, 2021	House test
23	March 17, 2021 to March 20, 2021	Revision and problems taken


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. Asha
 (Assistant Professor)
 Subject Tutor


Principal
 Dayanand College,
 HISAR

DAYANAND COLLEGE, HISAR

Department of Biotechnology

Lesson Plan 2020-2021
Semester III (M. Sc. II Yr)

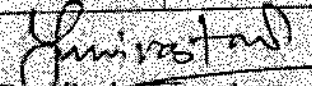
Paper MBL-531

SUBJECT: GENETIC ENGINEERING


Sr. No.	Date	Topics
1	January 1, 2021	Introduction: Historical background, Restriction enzymes and modifying enzymes, Restriction mapping.
2	January 2, 2021	HOLIDAY
3	January 3, 2020	SUNDAY
5	January 4, 2021 to January 16, 2021	Construction of chimeric DNA- staggered cleavage, Addition of poly dA and dT tails, Blunt end ligation. Gene cloning. Cloning and Expression Vectors: Vehicles for gene cloning, Plasmids, Bacteriophages, Cosmids and Phagemids as vectors, P1 vectors, F- factor based vectors, Plant and animal viruses as vector, Artificial chromosomes as vectors (YAC, BAC, PAC and MAC vectors), Expression vectors- use of promoters and expression cassettes.
6	January 17, 2021	SUNDAY
7	January 18, 2021 to January 25, 2021	Isolation Sequencing and Synthesis of Genes: Methods of gene isolation, Construction and screening of genomic and cDNA libraries, Chromosome walking, Chromosome jumping, Transposon tagging, Map based cloning.
8	January 26, 2021	HOLIDAY
9	January 27, 2021	Molecular Probes and PCR: Molecular probes, Labeling of probes, Radioactive vs Non-radioactive labeling, Uses of molecular probes

Vijay
Principal
Dayanand College,
Hisar

10	January 28, 2021	Molecular Markers and DNA Chip Technology: Molecular Markers- types and applications, Construction of molecular maps (genetic and physical maps).
11	January 29, 2021 to February 6, 2021	Polymerase Chain Reaction: basic principle, Modified PCR (Inverse PCR, Anchored PCR, PCR for mutagenesis, asymmetric PCR, RT PCR, PCR walking), Gene cloning Vs. Polymerase chain reaction.
12	February 7, 2021	SUNDAY
13	February 8, 2021 to February 12, 2021	DNA chip Technology & Microarrays,
14	February 13, 2021	Applications of PCR in biotechnology, Ligase chain reaction.
15	February 14, 2021	SUNDAY
16	February 15, 2021 to February 20, 2021	Automated DNA sequencing, Organochemical gene synthesis.
17	February 21, 2021	SUNDAY
18	February 22, 2021 to February 27, 2021	Genomics and Proteomics: Whole genome sequencing and functional genomics (a brief account), Applications of genomics and Proteomics with special reference to Arabidopsis and Rice.
19	February 28, 2021	SUNDAY
20	March 1, 2021 to March 6, 2021	DNA sequencing Techniques (Maxam Gilbert's chemical degradation methods and Sanger's dideoxy chain termination method).
21	March 7, 2021	SUNDAY
22	March 8, 2021 to March 13, 2021	Credit seminars
23	March 14, 2021	SUNDAY
24	March 15, 2021	Baculoviruses as expression vectors, Virus expression vectors, Binary and shuttle vectors.
25	March 16, 2021	Revision and problems taken


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. Nidhi Agarwal
 (Assistant Professor)


Principal
 Dayanand College,
 BILASPUR

DAYANAND COLLEGE, HISAR

Department of Biotechnology


**Lesson Plan 2020-2021
Semester III (M. Sc. II Yr)**


Paper MBL-534

SUBJECT: INTRODUCTORY BIOINFORMATICS

Sr. No.	Date	Topics
1	January 1, 2021	Definition, role, scope and limitation of bioinformatics
2.	January 2, 2021	HOLIDAY
3	January 3, 2020	SUNDAY
5	January 4, 2021 to January 16, 2021	Homology algorithms (BLAST) for open reading frames, annotations of genes, conserved protein motifs related structure / function.
6	January 17, 2021	SUNDAY
7	January 18, 2021 to January 25, 2021	Introduction to Data Banks, Gene banks, EMBL nucleotide sequence data bank
8	January 26, 2021	HOLIDAY
9	January 27, 2021	Structural Data Bank (Cambridge small molecules crystal structure data Bank). Calculation of conformational energy of Bio-molecules
10	January 28, 2021	Organizing Biological SPP information, Data sets in Biodiversity informatics (Spp 2000, Tree of life, ATCC, NCBI Spp analyst collaboration, (ICTV, Animal virus information system) a brief account.
11.	January 29, 2021 to February 6, 2021	Computational methods and significance

12	February 7, 2021	SUNDAY
13	February 8, 2021 to February 12, 2021	Virtual library searching- Medline, Science citation indexes
14	February 13, 2021	Introduction to Electronic Journals, Grants and finding information.
15	February 14, 2021	SUNDAY
16	February 15, 2021 to February 20, 2021	Seminars and assignments taken
17	February 21, 2021	SUNDAY
18	February 22, 2021 to February 27, 2021	Homology algorithms (BLAST) for proteins and nucleic acids. Research documentation- preparation of research report, setting up of a laboratory, seminar, paper preparation and presentation
19	February 28, 2021	SUNDAY
20	March 1, 2021 to March 6, 2021	Sequence data bank, rRNA data Bank, Peptide data bank., Data Bank similarity searches (BLAST, FASTA, PSI-BLAST algorithms multiple)
21	March 7, 2021	SUNDAY
22	March 8, 2021 to March 13, 2021	An introduction to data mining and data security, Data warehousing, Data capture, Data Analysis, Network, NicNet, Inlibnet, EMBnet, Operating System, algorithm.
23	March 14, 2021	SUNDAY
24	March 15, 2021	Different branches of bioinformatics. Terminologies: Internet browser, software, hardware, database
25	March 16, 2021	Revision and problems taken


 Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


 Dr. Nidhi Aggarwal
 (Assistant Professor)

Principal
 Durgam Chaudhary
 111510

DAYANAND COLLEGE, HISAR

Department of Biotechnology

Lesson Plan 2020-2021
Semester III (M. Sc. – II Yr)

Paper -MBL-532


SUBJECT: ENZYMOLOGY & ENZYME TECHNOLOGY

Sr. No.	Date	Topics
1	January 1, 2021	Historical background, Enzymes vs Chemical catalyst.
2.	January 2, 2021	HTET EXAM
3	January 3, 2020	SUNDAY
5	January 4, 2021 to January 16, 2021	Substrate and reaction specificity, Lock & key hypothesis, Induced Fit hypothesis
6	January 17, 2021	SUNDAY
7	January 18, 2021 to January 25, 2021	Mechanism of action of selected enzymes i.e. chymotrypsin, trypsin, papain, lysozyme, ribonuclease.
8	January 26, 2021	HOLIDAY
9	January 27, 2021	Transformation of Michaelis- Menten equation and determination of K_m and V_{max} . Haldane relationship.
10	January 28, 2021	Multireactant enzymes. Enzymes inhibition i.e., reversible and irreversible inhibition. Competitive. Non-competitive and uncompetitive inhibition
11	January 28, 2021 to February 6, 2021	Regulatory Enzymes: Allosteric enzymes. Sequential and symmetry models.
12	February 7, 2021	SUNDAY
13	February 8, 2021 to February 12, 2021	Enzyme Technology: Large scale production of enzymes. Uses of isolated enzymes in food and

Principal

D. C. Bhatia

		chemical industries,
14	February 13,2021	Therapeutic & medicinal use of enzymes, Enzyme Kinetics: Factors affecting velocity of enzyme catalyzed reactions, Michaelis-Menten hypothesis, uncompetitive inhibition..
15	February 14,2021	SUNDAY
16	February 15,2021 to February 20,2021	Active site mapping, Nature of the active site,
17	February 21,2021	SUNDAY
18	February 22,2021 to February 27,2021	Protein Engineering: Concept and Methods, Site directed mutagenesis,
19	February 28,2021	SUNDAY
20	March 1,2021 to March 6,2021	Extraction and purification of enzymes, Cofactors and coenzymes
21	March 7,2021	SUNDAY
22	March 8,2021 to March 13,,2021	Enzyme nomenclature and classification, Units of activity, Methods for enzyme assays,
23	March 14,2021	SUNDAY
24	March 15,2021	Covalently regulated enzymes, Wrong way binding hypothesis, Three point attachment hypothesis,
25	March 16,2021	Revision and problems taken


Dr. Vivek Srivastava
(Associate Professor)
Head, Dept. of Biotechnology


Dr. Neha Aggarwal
(Assistant Professor)

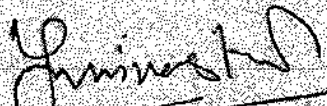
Principal
Dayanand College
HISAR

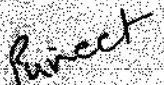
DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2021-2022)
Semester- I (M. Sc. -I) year
Submitted By: - Dr. Puneet Beniwal
BTL 511: INTRODUCTORY BIOTECHNOLOGY


S.No.	Date	Topic
	December 21, 2021 to December 24, 2021	An overview-definition, scope and importance of Biotechnology, Concept of Recombinant DNA technology and Gene Cloning.
	December 25, 2021 & December 26, 2021	Christmas Holiday and Sunday.
	December 27, 2021 to January 1, 2022	A brief account of microbes in industry and agriculture, Metabolic engineering for over production of metabolites.
	January 2, 2022	Sunday
	January 3, 2022 to January 8, 2022	Introduction to plant tissue culture and its applications, Gene transfer methods in plants, Transgenic plants (A brief introduction), Chloroplast and mitochondria engineering.
	January 9, 2022	Sunday
	January 10, 2022 to January 15, 2022	Animal Biotechnology: In-vitro fertilization and embryo transfer in humans and livestock, Transfection techniques and transgenic animals, Animal Cloning
	January 16, 2022	Sunday
	January 17, 2022 to January 22, 2022	Medical Biotechnology: (A brief account) Biotechnology in medicine, Vaccines, Diagnostic, Forensic, Gene therapy, Nano Medicine & Drug Delivery Cell & Tissue Engineering, Stem Cell therapy.
	January 23, 2022	Sunday
	January 24, 2022	Assessment test.
	January 25, 2022 to January 29, 2022	Environmental Biotechnology: (A brief account) Role of biotechnology in pollution control, Sewage treatment, Energy management, Bioremediation, Restoration of degraded lands and Conservation of biodiversity..

Vijay
Principal
Dayanand College,
HISAR

	January 30, 2022	Sunday
	January 31, 2022	Assignment submission
	1, February 2022 to 5 February 2022	Nano Science & Technology: An Overview, Insights and intervention into the Nano world, Important Developments, Social implications & Ethical issues in Nanotechnology, Applications of Nanobiotechnology in different areas.
16	6, February 2022	Sunday
17	7, February 2022 to 8, February 2022	Bioinformatics: (A brief account) Importance, Scope of Bioinformatics, world wide web as a tool, Bioinformatics institutes and databases, Bioinformatics training & limitations. Bio-business and Bio-safety, Biotechnology for developing countries and IPR.
18		


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. Puneet Beniwal
 (Assistant Professor)
 Subject Tutor

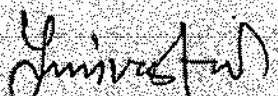

 Principal
 Dayanand College,
 HISAR

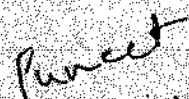
DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2021-2022)
Semester- I (M. Sc. -I) year
Submitted By: - Dr. Puneet Beniwal
BTL 513: CELL BIOLOGY


S.No.	Date	Topic
	December 21, 2021 to December 24, 2021	Structural organization and function of intracellular organelles: Cell wall, nucleus, mitochondria, Golgi bodies, lysosomes, endoplasmic reticulum.
	December 25, 2021 & December 26, 2021	Christmas Holiday and Sunday.
	December 27, 2021 to January 1, 2022	peroxisomes, plastids, vacuoles, chloroplast, structure & function of cytoskeleton and its role in motility. Membrane structure and function: Structure of model membrane, lipid bilayer and membrane protein diffusion, osmosis, ion channels, active transport.
	January 2, 2022	Sunday
	January 3, 2022 to January 8, 2022	membrane pumps, mechanism of sorting and regulation of intracellular transport, electrical properties of membranes. Cell division and cell cycle: Mitosis and meiosis, their regulation, steps in cell cycle, regulation and control of cell cycle.
	January 9, 2022	Sunday
	January 10, 2022 to January 15, 2022	Cell signaling Hormones and their receptors, cell surface receptor, signaling through G-protein coupled receptors, signal transduction pathways, second messengers and regulation of signaling pathways.
	January 16, 2022	Sunday
	January 17, 2022 to January 22, 2022	Cellular communication: general principles of cell communication, cell adhesion and roles of different adhesion molecules, gap junctions, extracellular matrix, integrins. Neurotransmission and its regulation.
	January 23, 2022	Sunday
	January 24, 2022	Assessment test.
	January 25, 2022 to January 29, 2022	Cancer Genetic rearrangements in progenitor cells, oncogenes, tumor suppressor genes, cancer and the cell cycle, virus-induced cancer, metastasis, interaction of cancer cells

Principal
 Dayanand College,
 Hisar

		with normal cells, apoptosis, therapeutic interventions of uncontrolled cell growth
	January 30, 2022	Sunday
	January 31, 2022	Assignment submission
	1, February 2022 to 5 February 2022	Photosynthesis and Respiration: Photosynthetic apparatus, light reaction, cyclic and noncyclic photoinduced electron flow, C3 and C4 cycle and their regulation and CAM pathway, Photorespiration, dark phase of photosynthesis.
16	6, February 2022	Sunday
17	7, February 2022 to 8, February 2022	Problems and Doubts taken.
18		


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Dept. of Biotechnology


Dr. Puneet Beniwal
 (Assistant Professor)
 Subject Tutor


 Principal
 Dayanand College,
 HISAR

DAYANAND COLLEGE, HISAR

Department of Biotechnology

LESSON PLAN (2021-2022)

Semester- III (M. Sc. -II) year

Submitted By: - Dr. Twinkle

BTL 531: GENETIC ENGINEERING

Sr. No.	Month	Topics
1	November 9, 2021	Course outcomes discussion.
2	November 10, 2021 to November 13, 2021	Introduction: Historical background, Restriction enzymes and modifying enzymes, Restriction mapping
3	November 14, 2021	Sunday
4	November 15, 2021 to November 20, 2021	Construction of chimeric DNA- staggered cleavage, Addition of poly dA and dT tails, Blunt end ligation, Gene cloning
5	November 21, 2021	Sunday
6	November 22, 2021 to November 23, 2021	Cloning and Expression Vectors: Vehicles for gene cloning, Plasmids, Bacteriophages, Cosmids and Phagemids as vectors, P1 vectors, F- factor based vectors, Plant and animal viruses as vector.
7	November 24, 2021	Holiday
8	November 25, 2021 to November 27, 2021	Artificial chromosomes as vectors (YAC, BAC, PAC and MAC vectors), Expression vectors- use of promoters and expression cassettes, Bacculoviruses as expression vectors, Viru expression vectors, Binary and shuttle vectors.
9	November 28, 2021	Sunday
10	November 29, 2021 to 4, December 2021	Isolation Sequencing and Synthesis of Genes: Methods of ge isolation, Construction and screening of genomic and cDI libraries, Chromosome walking, Chromosome jumpi Transposone tagging.
11	5, December 2021	Sunday
12	December 6, 2021 to December 11, 2021	Map based cloning, DNA sequencing Techniques (Mc Gilbert's chemical degradation methods and Sanger's did chain termination method), Automated DNA sequer Organochemical gene synthesis.

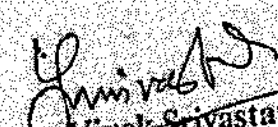
Principal
Dayanand College
Hisar

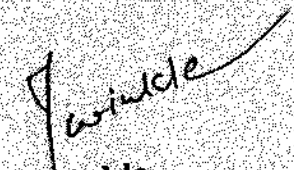
13	December 12, 2021	Sunday
14	December 13, 2021 to December 18, 2021	Molecular Probes and PCR: Molecular probes, Labeling of probes, Radioactive vs Non-radioactive labeling. Uses of molecular probes. Polymerase Chain Reaction- basic principle, Modified PCR.
15	December 19, 2021	Sunday
16	December 20, 2021 to December 23, 2021	Inverse PCR, Anchored PCR, PCR for mutagenesis, asymmetric PCR, RT PCR, PCR walking, Gene cloning Vs. Polymerase chain reaction, Applications of PCR in biotechnology, Ligase chain reaction.
17	December 24, 2021	Assignment Submission.
18	December 25, 2021	Christmas Holiday.
19	December 26, 2021 to January 1, 2022	Presentation
20	January 2, 2022	Sunday
21	January 3, 2022 to January 8, 2022	Molecular Markers and DNA Chip Technology: Molecular Markers- types and applications, Construction of molecular maps (genetic and physical maps), DNA chip Technology & Microarrays (a brief account)
22	January 9, 2022	Sunday
23	January 10, 2022 to January 15, 2022	Genomics and Proteomics: Whole genome sequencing and functional genomics (a brief account), Applications of genomics and Proteomics with special reference to Arabidopsis and Rice.
24	January 16, 2022	Sunday
7	January 17, 2022 to January 22, 2022	Revision
8	January 23, 2022	Sunday
	January 24, 2022	Class test
9	January 25, 2022 to January 29, 2022	Revision.

Principal

W. N. S. College,
HISAR

10	January 30, 2022	Sunday
12	31, January 2022 to 5 February 2022	Problem taken .
13	6, February 2022	Sunday
14	7, February 2022 to 8, February 2022	Class test.


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology


Dr. Twinkle
 (Assistant Professor)
 Subject Tutor

Vignesh
 and College
 USAR

DAYANAND COLLEGE, HISAR
Department of Biotechnology
LESSON PLAN (2021-2022)
Semester- III (M. Sc. -II) year
Submitted By: - Dr. Twinkle

Sr. No.	Month	Topics
1	November 9, 2021	Course outcomes discussion.
2	November 10, 2021 to November 13, 2021	Introduction to Bioinformatics: Definition, role, scope and limitation of bioinformatics. Different branches of bioinformatics.
3	November 14, 2021	Sunday
4	November 15, 2021 to November 20, 2021	Terminologies: Internet browser, software, hardware, database, Network, NicNet, Inlibnet, EMBnet, Operating System, algorithm.
5	November 21, 2021	Sunday
6	November 22, 2021 to November 23, 2021	Biological Data Banks: An introduction to data mining and data security, Data warehousing, Data capture, Data Analysis, Data Banks, Gene banks, EMBL nucleotide sequence data bank, Sequence data bank.
7	November 24, 2021	Holiday
8	November 25, 2021 to November 27, 2021	rRNA data Bank, Peptide data bank., Data Bank similarity searches (BLAST, FASTA, PSI-BLAST algorithms multiple), Structural Data Bank (Cambridge small molecules crystal structure data Bank), Calculation of conformational energy of Bio-molecules.
9	November 28, 2021	Sunday
10	November 29, 2021 to 4, December 2021	Biodiversity Data Bases: Organizing Biological SPP information, Data sets in Biodiversity Informatics (Spp 2000, Tree of life, ATCC, NCBI Spp analyst collaboration)
11	5, December 2021	Sunday
12	December 6, 2021 to December 11, 2021	(ICTV, Animal virus information system) a brief account.
13	December 12, 2021	Sunday


Principal

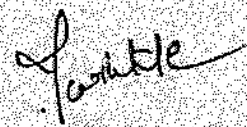
Dayanand College,
HISAR


14	December 13, 2021 to December 18, 2021	Sequence Analysis: Computational methods and significance, homology algorithms (BLAST) for proteins and nucleic acids, open reading frames, annotations of genes, conserved protein.
15	December 19, 2021	Sunday
16	December 20, 2021 to December 24, 2021	conserved protein motifs related structure / function. Phylogenetic analysis: Introduction and importance, phylogenetic tree, methods of phylogenetic analysis.
17	December 25, 2021	Christmas Holiday.
18	December 26, 2021 to January 1, 2022	Presentation
19	January 2, 2022	Sunday
21	January 3, 2022 to January 8, 2022	Application of Bioinformatics and Scientific Documentation: Virtual library searching Medline, Science citation indexes, Electronic Journals, Grants and finding information. Research documentation.
22	January 9, 2022	Sunday
23	January 10, 2022 to January 15, 2022	preparation of research report, setting up of a laboratory, seminar, paper preparation and presentation. How to write dissertation? Guidelines for writing of literature, materials and method, result, discussion, Presentation and references.
24	January 16, 2022	Sunday
7	January 17, 2022 to January 22, 2022	Revision
8	January 23, 2022	Sunday
	January 24, 2022	Class test
9	January 25, 2022 to January 29, 2022	Revision.
10	January 30, 2022	Sunday
12	31, January 2022 to 5 February, 2022	Problem taken.

V. S. S. S. S.
 V. S. S. S. S.
 V. S. S. S. S.
 V. S. S. S. S.

13	6, February 2022	Sunday
14	7, February 2022 to 8, February 2022	Class test.


Dr. Vivek Srivastava
 (Associate Professor)
 Head, Department of Biotechnology


Dr. Twinkle
 (Assistant Professor)
 Subject Tutor


 Principal
 and College,
 ISAR

Dayanand College, Hisar

Department of Zoology

Lesson plan for session- 2020-21


Class: B. Sc, I Medical (A₁) (Ist Semester)


Subject: Zoology

Lesson Plan: November 2020 to March 2021

Zoology 101L (Animal Diversity I)

Date	Topic
04 November-10 November	Phylum Protozoa: General characters, Classification and locomotory organs and mode of locomotion among Protozoans
11 November-20 November	Phylum Porifera: General characters and Classification, Canal system of Sycon
21 November-28 November	Phylum Coelenterata: General characters and Classification, polymorphism in Coelenterata
01 December-08 December	Phylum Platyhelminthes: General characters and Classification, Reproduction system and life history of <i>Taenia</i>
09 December-15 December	Phylum Nematelminthes: General characters and Classification, Reproductive system and life history of <i>Ascaris</i>
16 December-24 December	Phylum Annelida: General characters and Classification, Metamerism
28 December-06 January	Phylum Arthropoda: General characters and Classification, Arthropoda in general
07 January -13 January	Phylum Mollusca: General characters and Classification, Torsion in Gastropoda


Professor Incharge
Department of Zoology
Dayanand College, Hisar

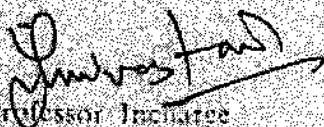

Principal
Dayanand College,
HISAR

Zoology 102(Animal Diversity II)

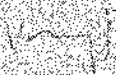
DATE	TOPIC
15 January - 22 January	Phylum Echinodermata: General characters and Classification and Water-vascular system in Asteroidea
23 January - 30 January	Subphylum Urochordata: General characters and Classification, Theories of origin of Chordata
01 February - 06 February	Subphylum Cephalochordata: General characters and Classification and affinities
08 February - 11 February	Superclass Agnatha: Class Cyclostomata: characters, classification and affinities
12 February - 20 February	Class chondrichthyes: Characters and classification Class osteichthyes: Characters and classification and Osmoregulation in Pisces
22 February - 27 February	Class Amphibia: Characters, classification and parental care in Amphibians
1 March - 6 March	Class Reptilia: Characters and classification, poisonous and non-poisonous snakes, poisonous apparatus and biting mechanism in snakes
8 March - 13 March	Class Aves: Characters, Classification and Flight adaptation in Birds
15 March - 18 March	Class Mammalia: Characters, Classification and Origin of Mammals

Assignment – upto 15 January, 2021 and upto 20 February, 2021

Unit test - 02-20 February, 2021


 Professor Indrajeet
 Department of Zoology
 Dayanand College, Hissar

Poonam Devi


 Principal
 Dayanand College,
 HISSAR

Dayanand Post Graduate College, Hisar

Department of Zoology

LESSON PLAN FOR SESSION- 2020-2021

Class: B. Sc. II Medical and Biotechnology (3rd Semester)

Subject: Zoology (Paper I & Paper II)

ZOOLOGY 301 L (PHYSIOLOGY AND BIOCHEMISTRY-I)

Date	Topic
16 November 2020 to 21 November 2020	Structure & Classification of Neuron
22 November 2020	SUNDAY
23 November to 28 November 2020	Graded Potential, Origin of Action Potential.
29 November 2020	SUNDAY
30 November 2020	HOLIDAY
1 December to 2020 to 5 December 2020	Propagation of Nerve Impulse
6 December 2020	SUNDAY
7 December 2020 to 12 December 2020	Nerve Impulse Conduction Through Axo- Dendritic synapse.
13 December 2020	Sunday
14 December 2020 to 19 December 2020	Ultrastructure of Skeletal Muscle & Myofibrillar Filaments
20 December 2020	SUNDAY
21 December 2020 – 24 December 2020	Molecular & Chemical basis of Muscle Contraction.

[Signature]
Principal
Dayanand College,
HISAR

[Signature]
Professor Incharge
Department of Zoology
Dayanand College, Hisar

25 December 2020	HOLIDAY
26 December 2020	Energy For Muscle Contraction
27 December 2020	SUNDAY
28 December 2020 to 2 January 2021	Theory For Muscle Contraction
3 January 2021	SUNDAY
4 January 2021 to 9 January 2021	Physiology of Digestion in Alimentary Canal
10 January 2021	SUNDAY
11 January 2021 to 16 January 2021	Absorption of Carbohydrate, Protein and Lipid
17 January 2021	SUNDAY
18 January 2021 to 19 January 2021	Composition of Blood, Hemostasis
20 January 2021	HOLIDAY
21 January 2021 to 23 January 2021	Structure of Heart, Cardiac cycle
24 January 2021	SUNDAY
25 January 2021	Class Test
26 January 2021	Holiday
27 January 2021 to 30 January 2021	Pulmonary Ventilation And Respiratory volume
31 January 2021	SUNDAY

[Signature]
Professor Incharge
Department of Zoology
Dayanand College H.N. 15

[Signature]
Principal
Dayanand College
H.N. 15

1 February 2021 to 6 February 2021	Transport of Oxygen and Carbon Dioxide
7 February 2021	SUNDAY
8 February 2021 to 13 February 2021	Haldane and Bohr Effect
14 February 2021	SUNDAY
15 February 2021	Doubt Class
16 February 2021	HOLIDAY
17 February 2021 to 20 February 2021	General Introduction of Excretion And Structure of Nephrons
21 February 2021	SUNDAY
22 February 2021 to 26 February 2021	Physiology of Urine Formation
27 February 2021	HOLIDAY
28 February 2021	SUNDAY
1 March 2021 to 6 March 2021	Counter current Mechanism
7 March 2021	SUNDAY
8 March 2021 to 14 March 2021	Revision

ZOOLOGY 302 L (PHYSIOLOGY AND BIOCHEMISTRY-II)

DATE	TOPIC
16 November 2020 to 21 November 2020	Spermatogenesis and Spermiogenesis

Principal
Dayanand College,
HISAR


Professor Incharge
Department of Zoology
Dayanand College, Hisar


22 November 2020	SUNDAY
23 November to 28 November 2020	Oogenesis and its Hormonal Control.
29 November 2020	SUNDAY
30 November 2020	HOLIDAY
1 December to 2020 to 5 December 2020	Menstrual cycle
6 December 2020	SUNDAY
7 December 2020 to 12 December 2020	Structure and function of Pituitary and Thyroid Glands
13 December 2020	SUNDAY
14 December 2020 to 19 December 2020	Structure and function of Parathyroid ,Pancreas , Adrenal glands
20 January 2021	SUNDAY
21 January 2021 to 23 January 2021	Glycolysis
24 January 2021	SUNDAY
25 January 2021	Class Test
26 January 2021	HOLIDAY
27 January 2021 to 30 January 2021	Kreb cycle , Pentose Phosphate Pathway
31 January 2021	SUNDAY
1 February 2021 to 6 February 2021	Glycogen Metabolism , Electron transport Chain

Signature
 Department of Chemistry
 Dayanand College, Hissar

Signature
 Principal
 Dayanand College, Hissar

7 February 2021	SUNDAY
8 February 2021 to 13 February 2021	Biosynthesis of Palmitic Acid
14 February 2021	SUNDAY
15 February 2021	Beta oxidation of Palmitic Acid
16 February 2021	SUNDAY
17 February 2021 to 20 February 2021	Protein Metabolism
21 February 2021	HOLIDAY
22 February 2021 to 26 February 2021	Introduction of Enzymes , Properties and classification of Enzymes
27 February 2021	SUNDAY
28 February 2021	HOLIDAY
1 March 2021 to 6 March 2021	Mechanism of Action of Enzyme
8 March to 14 March 2021	Regulation of Enzyme activity


 Professor Incharge
 Department of Zoology
 Dayanand College, Hisar


 (SACM)

Principal
 Dayanand College,
 Hisar

Dayanand Post Graduate College, Hisar

Department of Zoology

Lesson plan for session- 2020-2021

Class: B. Sc. III Medical (A1, A2) and Biotechnology (B) (5th Semester)

Subject: Zoology

Zoology 501L (Applied Zoology I)


Date	Topic
16 November 2020 to 22 November 2020	Host: Definitive host, Intermediate host
23 November to 28 November 2020	Parasitism, Symbiosis
29 November to 30 November 2020	Commensalism, Reservoir, Zoonosis, Transmission
1 December 2020 to 6 December 2020	Prevention and control of diseases: Tuberculosis, typhoid, Zoonosis, Transmission
7 December to 13 December 2020	Prevention and control of diseases: Tuberculosis, typhoid.
14 December 2020 to 19 December 2020	Brief Account
20 December 2020	Assessment Test
21 December 2020 to 25 December 2020	Life history and pathogenicity of <i>Trypanosoma gambiense</i>
26 December 2020 to 2 January 2021	Life history and pathogenicity of <i>Ancylostoma duodenale</i>
3 January 2021 to 9 January 2021	Life history and pathogenicity of <i>Wuchereria bancrofti</i>

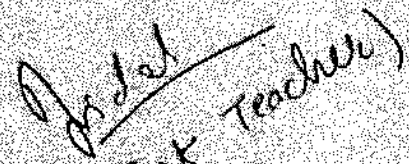
Principal
Dayanand College
HISAR

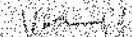
Professor Incharge
Department of Zoology
Dayanand College, Hisar

Zoology 502 L (Applied Zoology II)

DATE	TOPIC
10 January 2021 to 16 January 2021	Biology, Control and damage caused by <i>Helicoverpa armigera</i> , <i>Pyrilla perpusilla</i>
17 January 2021 to 23 January 2021	Biology, Control and damage caused by <i>Papilio demoleus</i>
24 January 2021 to 31 January 2021	Biology, Control and damage caused by <i>Callosobruchus chinensis</i>
1 February 2021 to 7 February 2021	Biology, Control and damage caused by <i>Sitophilus oryzae</i> and <i>Tribolium castaneum</i>
8 February 2021 to 14 February 2021	Medical importance and control of <i>Pediculus humanus corporis</i>
15 February 2021 to 20 February 2021	Medical importance and control of <i>Anopheles, culex</i>
21 February 2021 to 28 February 2021	Medical importance and control of <i>Aedes</i> and <i>Xenopsylla cheopis</i>
1 March 2021 to 6 March 2021	Preservation and artificial insemination in cattle: Introduction
7 March 2021 to 14 March 2021	Preservation and artificial insemination in cattle: Induction of early puberty and synchronization of estrus in cattle, Poultry Culture
15 March 2021 to 20 March 2021	Aquaculture: Genetic Improvements in aquaculture industry, Induced breeding


 Professor Indira
 Department of Zoology
 Dayanand College, Hissar


 (Subject Teacher)


 Principal

HISAR