

DPG DEGREE COLLEGE, GURUGRAM



LESSON- PLAN

PROGRAMME NAME: MASTERS OF SCIENCE (ZOOLOGY)

No. of Lecture Hours / Week	4 / Week	Subject	Inheritance Biology
Total No. of Lecture Hours		Semester	2nd
Course Code	20ZOO22C2	Session	2023-24

Staff Name & Designation: Dr. Indu

Course Objectives:

1. To provide comprehensive information about Mendelian principles with respect to inheritance
2. To provide the detailed understanding of key events of gene interaction, gene mapping and mapping with molecular markers
3. To offer the information regarding microbial genetics along with quantitative genetics and pedigree analysis

Sr. No.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1.	Unit I	General introduction	09/01/2024	Regular	Chalk and duster
2.		Mendelian principles: Dominance	12/01/2024	Regular	Chalk and duster
3.		Mendelian principles: segregation	15/01/2024	Regular	Chalk and duster
4.		Mendelian principles: independent assortment	15/01/2024	Regular	Chalk and duster
5.		Concept of gene: Allele	16/01/2024	Regular	Chalk and duster
6.		Concept of gene: multiple alleles	19/01/2024	Regular	Chalk and duster
7.		Concept of gene: Pseudo allele.	22/01/2024	Regular	Chalk and duster
8.		Concept of gene: complementation tests.	22/01/2024	Regular	Chalk and duster
9.		Extra chromosomal inheritance: Inheritance of Mitochondrial	23/01/2024	Regular	Chalk and duster
10.		Extra chromosomal inheritance: Inheritance of chloroplast genes	29/01/2024	Regular	Chalk and duster
11.		Extra chromosomal inheritance: maternal inheritance.	29/01/2024	Regular	Chalk and duster
12.		Repeat-Mendelian principles: Dominance, segregation, independent assortment	30/01/2024	Regular	Chalk and duster
13.		Repeat-Concept of gene: Allele, multiple alleles, Pseudo allele, complementation tests	02/02/2024	Regular	Chalk and duster
14.	Unit II	Extensions of Mendelian principles	05/02/2024	Regular	Chalk and duster
15.		Codominance	05/02/2024	Regular	Chalk and duster
16.		Incomplete dominance	06/02/2024	Regular	Chalk and duster
17.		Gene interactions	09/02/2024	Regular	Chalk and duster
18.		Pleiotropy	12/02/2024	Regular	Chalk and duster
19.		Genomic imprinting	12/02/2024	Regular	Chalk and duster
20.		Penetrance and expressivity	13/02/2024	Regular	Chalk and duster
21.		phenocopy,	16/02/2024	Regular	Chalk and duster
22.		linkage and crossing over,	19/02/2024	Regular	Chalk and duster
23.		sex linkage, sex limited and sex influenced characters.	19/02/2024	Regular	Chalk and duster

24.		Gene mapping methods: Linkage maps, tetrad analysis	20/02/2024	Regular	Chalk and duster
25.		Gene mapping methods: mapping with molecular markers	23/02/2024	Regular	Chalk and duster
26.		Gene mapping methods: mapping by using somatic cell hybrids	26/02/2024	Regular	Chalk and duster
27.	UNIT III	Microbial genetics	26/02/2024	Regular	Chalk and duster
28.		Methods of genetic transfers – transformation	27/02/2024	Regular	Chalk and duster
29.		Methods of genetic transfers – conjugation	01/03/2024	Regular	Chalk and duster
30.		Methods of genetic transfers – transduction	04/03/2024	Regular	Chalk and duster
31.		Methods of genetic transfers – sex-duction	04/03/2024	Regular	Chalk and duster
32.		Methods of genetic transfers – mapping genes	05/03/2024	Regular	Chalk and duster
33.		Human genetics: Pedigree analysis	11/03/2024	Regular	Chalk and duster
34.		Human genetics: karyotypes	11/03/2024	Regular	Chalk and duster
35.		Human genetics: genetic disorders	12/03/2024	Regular	Chalk and duster
36.		Quantitative genetics: Polygenic inheritance	15/03/2024	Regular	Chalk and duster
37.		Quantitative genetics: heritability	18/03/2024	Regular	Chalk and duster
38.		Quantitative genetics: its measurements	18/03/2024	Regular	Chalk and duster
39.		Repeat-Methods of genetic transfers – mapping genes	19/03/2024	Regular	Chalk and duster
40.		Revision	22/03/2024	Regular	Chalk and duster
41.		Test	01/04/2024	Regular	Chalk and duster
42.	UNIT IV	Structural alterations of chromosomes	01/04/2024	Regular	Chalk and duster
43.		Numerical alterations of chromosomes	02/04/2024	Regular	Chalk and duster
44.		Structural and numerical alterations of chromosomes: Deletion	05/04/2024	Regular	Chalk and duster
45.		Structural and numerical alterations of chromosomes: duplication	08/04/2024	Regular	Chalk and duster
46.		Structural and numerical alterations of chromosomes: inversion	08/04/2024	Regular	Chalk and duster
47.		Structural and numerical alterations of chromosomes: translocation	09/04/2024	Regular	Chalk and duster

48.	Structural and numerical alterations of chromosomes: ploidy and their genetic implications	12/04/2024	Regular	Chalk and duster
49.	Recombination	15/04/2024	Regular	Chalk and duster
50.	Recombination: Homologous recombination including transposition	15/04/2024	Regular	Chalk and duster
51.	Recombination: non-homologous recombination including transposition	16/04/2024	Regular	Chalk and duster
52.	Repeat-Recombination	19/04/2024	Regular	Chalk and duster
53.	Repeat-Recombination: Homologous recombination including transposition	22/04/2024	Regular	Chalk and duster
54.	Repeat-Recombination: non-homologous recombination including transposition	22/04/2024	Regular	Chalk and duster
55.	Revision	23/04/2024	Regular	Chalk and duster

Text Books:

1. Fairbanks, D.J. and W.R. Anderson. Genetics - The Continuity of Life. Brooks/Cole Publishing Company ITP, NY, Toronto.
2. Gardner, E.J., M.J. Simmons and D.P. Snustad. Principles of Genetics. John Wiley and Sons. Inc., NY.
3. Watson, J.D., N.H. Hopkins, J.W. Roberts, J.A. Steitz and A.M. Weiner. Molecular Biology of Genes. The Benjamin/Cummings Publishing Company Inc., Tokyo.
- 4 PK Gupta. Genetics, Rastogi publications.
5. Veer bala Rastogi. Organic Evolution-Evolutionary Biology, Medtec Publication.
6. Veer bala Rastogi. Genetics, Kedar Nath Rnath Publication

Reference Book:

1. Atherly, A.G., J.R. Girton and J.F. McDonald. The Science of Genetics. Saunders College Publishing, Harcourt Brace College Publishers, NY.
2. Brooker, R.J. Genetics: Analysis and Principles. Benjamin/Cummings, Longman Inc.

3. Griffiths, A.J.F., J.H. Miller, D.T. Suzuki, R.C. Lewontin and W.M. Gelbart. An introduction to genetic analysis. W.H. Freeman and Company, New York.

4. Lewin, B. Genes. VI. Oxford University Press, Oxford, New York, Tokyo.

5. Snustad, D.P. and M.J. Simmons. Principles of Genetics. John Wiley and Sons. Inc., NY.

Course Outcomes: at the end of the course, the student will be able to:

CO1: Gain expertise in explaining how a variety of interacting processes generate an organism's heterogeneous shapes, size and structural features that arise on the trajectory from embryo to adult or more generally throughout a life cycle.

CO2: Have a systematic and organized learning about the knowledge and concepts of growth, development and inheritance pattern among organisms.

CO3: Displays a rich array of material and conceptual practices of inheritance biology that could be analyzed to better understand the scientific reasoning exhibited in experimental life processes.

Remarks:

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DPG DEGREE COLLEGE, GURUGRAM

LESSON- PLAN

PROGRAMME NAME: ALL PG COURSES (IInd Sem)

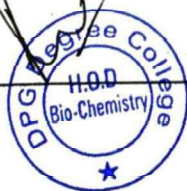
No. of Lecture Hours / Week	5 / Week	Subject	Molecular Biology
Total No. of Lecture Hours		Semester	2nd
Course Code	19BC-22-HC3	Session	2023-24

Staff Name & Designation: Dr. Rekha (Assistant Professor)

Course Objectives:

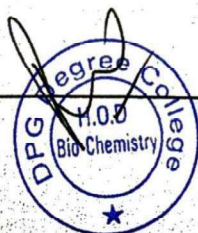
1. To impart detailed understanding of key events of molecular biology comprising of mechanism of DNA Replication, Transcription and Translation in Prokaryotes and Eukaryotes.
2. To provide adequate knowledge about Post Transcriptional Modifications and Processing of Eukaryotic RNA to the course learners.

Sr. No.	Unit No.	Topics to be covered	Date	*Nature of class	Remarks
1	UNIT-I	<i>DNA replication:</i> DNA supercoiling	9-Jan-24	Regular	Chalk & Duster
2		mechanism of replication, the replicons, origin, primosome and replisomes	10-Jan-24	Regular	Chalk & Duster
3		properties of prokaryotic and eukaryotic DNA polymerases	11-Jan-24	Regular	Chalk & Duster



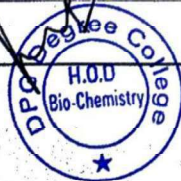
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4		synthesis of leading and lagging strands	12-Jan-24	Regular	Chalk & Duster
5		difference between prokaryotic and eukaryotic replication	16-Jan-24	Regular	PPT
6		Inhibitors of replication, telomeres and telomerase	17-Jan-24	Regular	Chalk & Duster
7		Homologous and site-specific recombination	18-Jan-24	Regular	Chalk & Duster
8		DNA damage and repair mechanisms	19-Jan-24	Regular	Chalk & Duster
9		Extra-chromosomal replicons	23-Jan-24	Regular	Chalk & Duster
10		Revision of Unit-I	24-Jan-24	Regular	Chalk & Duster
11		<i>RNA synthesis and processing:</i> transcription factors and machinery	25-Jan-24	Regular	PPT
12	UNIT-II	formation of initiation complex	30-Jan-24	Regular	Chalk & Duster
13		transcription activators, repressors and insulators	31-Jan-24	Regular	Chalk & Duster
14		RNA polymerases, capping, elongation, and termination	1-Feb-24	Regular	PPT
15		Post-transcriptional modifications of mRNA	2-Feb-24	Regular	Chalk & Duster
16		Processing of pre-tRNA & pre-rRNA	13-Feb-24	Regular	Chalk & Duster
17		Turnover of RNA, Transport of processed mRNA	14-Feb-24	Regular	Chalk & Duster
18		Reverse transcription, Ribozymes	15-Feb-24	Regular	Chalk & Duster
19		Revision of Unit-II	16-Feb-24	Regular	PPT
20	UNIT-III	<i>Protein synthesis and processing:</i> Genetic codes	20-Feb-24	Regular	Chalk & Duster



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21		ribosomes, structure	21-Feb-24	Regular	Chalk & Duster
22		functional domain and subunit assembly	22-Feb-24	Regular	Chalk & Duster
23		formation of initiation complex	23-Feb-24	Regular	Chalk & Duster
24		initiation factors and their regulation	5-Mar-24	Regular	Chalk & Duster
25		elongation and elongation factors	6-Mar-24	Regular	PPT
26		termination, genetic code	7-Mar-24	Regular	Chalk & Duster
27		aminoacylation of tRNA	8-Mar-24	Regular	Chalk & Duster
28		tRNA- identity, aminoacyl tRNA synthetase	12-Mar-24	Regular	Chalk & Duster
29		translational proof-reading	13-Mar-24	Regular	Chalk & Duster
30		translational inhibitors,	14-Mar-24	Regular	PPT
31		Post- translational modification of proteins,	19-Mar-24	Regular	Chalk & Duster
32		protein targeting and degradation.	20-Mar-24	Regular	Chalk & Duster
33		Revision of Unit-III	21-Mar-24	Regular	Chalk & Duster
34	UNIT-IV	<i>Regulation of Transcription and Translation: Positive and negative control</i>	22-Mar-24	Regular	Chalk & Duster
35		Repressors, activators and insulators in regulating the expression of phages, viruses	28-Mar-24	Regular	Chalk & Duster
36		Repressors, activators and insulators in regulating the expression of prokaryotic and eukaryotic genes	29-Mar-24	Regular	PPT
37		Role of chromatin in gene expression and gene silencing	2-Apr-24	Regular	Chalk & Duster



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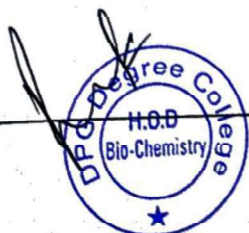
38	DNA binding motifs in pro- & eukaryotes	3-Apr-24	Regular	Chalk & Duster
39	helix-turn-helix	4-Apr-24	Regular	PPT
40	zinc fingers, leucine zippers/b zip	5-Apr-24	Regular	Chalk & Duster
41	helix-loop- helix motifs	9-Apr-24	Regular	Chalk & Duster
42	Non-coding RNAs (miRNA, snRNA, pRNA)	10-Apr-24	Regular	Chalk & Duster
43	Revision of Unit-IV	11-Apr-24	Regular	Chalk & Duster
44	Presentation	12-Apr-24	Regular	PPT
45	Presentation	23-Apr-24	Regular	PPT
46	Presentation	24-Apr-24	Regular	PPT
47	Presentation	25-Apr-24	Regular	PPT
48	Presentation	26-Apr-24	Regular	PPT
49	Presentation	30-Apr-24	Regular	PPT

Text Books:

1. Biotechnology: Expanding Horizons *By* B. D. Singh, Kalyani Publishers.
2. Textbook of Biotechnology *By* PK Gupta, Rastogi Publications.
3. Biotechnology *By* U. Satyanarayana.

Reference Books:

1. Basic Biotechnology *By* Colin Ratledge and Bjorn Kristiansen. Cambridge University Press.
2. Introduction to Biotechnology *By* William J. Thieman and Michael A. Palladino. Benjamin Cummings; US Ed edition.
3. Molecular Biotechnology: Principles and Applications of Recombinant DNA *By* Bernard JGlick and Jack J Pasternak. Publisher: American Society for Microbiology.



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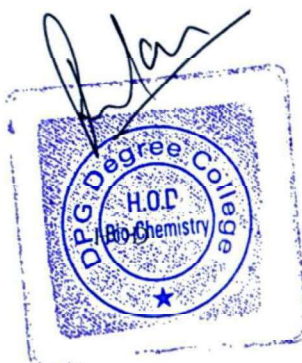
Course Outcomes: at the end of the course, the student will be able to:

CO1: Understand the impart detailing of key events of molecular biology comprising of mechanism of DNA Replication, Transcription and Translation in Prokaryotes and Eukaryotes.

CO2: Get adequate knowledge about Post Transcriptional Modifications and Processing of Eukaryotic RNA to the course learners.

Remarks:

In-charge



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LECTURE-PLAN

COURSE NAME: Master of Science

No.of Lecture Hours/Week	5	Subject	IE &COV
TotalNo. of Lecture Hours	63	Semester	II
Course Code:	16MAT22C3	Session	2023-24

Staff Name: Ms. Ruma

Designation: Assistant Professor

Course Objectives:

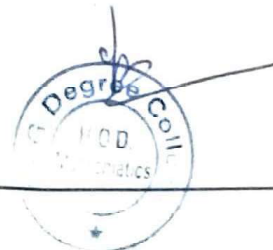
Course Objectives:

The objective of these contents is to provide some important results to the reader like:

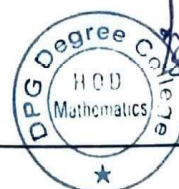
1. To solve the Initial value problem reduced to Volterra integral equations by the method of successive substitution, successive approximation and Laplace transform method.
2. To solve the boundary value problem reduced to fredholm integral equations by the method of successive substitution ,successive approximation and with the help of iterated kernel.
3. Construction of Green function and reduction of boundary value problem to Fredholm integral equation with Green function as kernel.
4. To solve the Brachistochrone problem, Geodesics Problem and Isoperimetric Problem and also solve the problems of minimum surface of revolution.



S. NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	UNIT-I	Linear Integral equations, basic	09/01/24	Offline	Chalk&Duster
2		Some basic identities	10/01/24	Offline	Chalk&Duster
3		Initial value problem reduced to Volterra integral equations	11/01/24	Offline	Chalk&Duster
4		Initial value problems reduced to Volterra integral equations	12/01/24	Offline	Chalk&Duster
5		Methods of successive substitution	15/01/24	Offline	Chalk&Duster
6		successive approximation to solve Volterra integral equations of second kind	16/01/24	Offline	Chalk&Duster
7		successive approximation to solve Volterra integral equations of second kind	17/01/24	Offline	Chalk&Duster
8		Iterated kernels	18/01/24	Offline	Chalk&Duster
9		Neumann series for Volterra equations	19/01/24	Offline	Chalk&Duster
10		Resolvent kernels a series	22/01/24	Offline	Chalk&Duster
11		Neumann series for Volterra equations	23/01/24	Offline	Chalk&Duster
12		Laplace transform method for a difference kernel	24/01/24	Offline	Chalk&Duster
13		Laplace transform method for a difference kernel	25/01/24	Offline	Chalk&Duster
14		Solution of a Volterra integral equation of the first Kind	29/01/24	Offline	Chalk&Duster
15		Solution of a Volterra integral equation of the first kind	30/01/24	Offline	Chalk&Duster
16	UNIT-II	Boundary value problems reduced to Fredholm Integral equations	31/01/24	Offline	Chalk&Duster
17		Boundary value problems reduced to Fredholm Integral equations	01/02/24	Offline	Chalk&Duster
18		Methods of successive approximation	02/02/24	Offline	Chalk&Duster
19		successive substitution to solve Fredholm equations of second kind	12/02/24	Offline	Chalk&Duster
20		Successive substitution to solve Fredholm equations Of second kind	13/02/24	Offline	Chalk&Duster
21		Iterated kernels	14/02/24	Offline	Chalk&Duster
22		Neumann series for Fredholm equations	15/02/24	Offline	Chalk&Duster
23		Neumann series for Fredholm equations	16/02/24	Offline	Chalk&Duster
24		Fredholm resolvent kernel as a ratio of two series	19/02/24	Offline	Chalk&Duster
25		Fredholm resolvent kernel as a ratio of two series	20/02/24	Offline	Chalk&Duster
26		Fredholm equations with separable kernels	21/02/24	Offline	Chalk&Duster
27		Fredholm equations with separable kernels	22/02/24	Offline	Chalk&Duster



	Approximation of a kernel by a separable kernel	23/02/24	Offline	Chalk&Duster
	Approximation of a kernel by a separable kernel	04/03/24	Offline	Chalk&Duster
	Fredholm Alternative	05/03/24	Offline	Chalk&Duster
	Non homogenous Fredholm equations with Degenerate kernels	06/03/24	Offline	Chalk&Duster
	Non homogenous Fredholm equations with Degenerate kernels	07/03/24	Offline	Chalk&Duster
33	UNIT-III	08/03/24	Offline	Chalk&Duster
34	Green function	11/03/24	Offline	Chalk&Duster
35	Use of method of variation of parameters to construct the Green function for a nonhomogeneous linear second order boundary value problem	12/03/24	Offline	Chalk&Duster
36	Use of method of variation of parameters to construct the Green function for a nonhomogeneous linear second order boundary value problem	13/03/24	Offline	Chalk&Duster
37	Use of method of variation of parameters to construct the Green function for a nonhomogeneous linear second order boundary value problem	18/03/24	Offline	Chalk&Duster
38	Basic four properties of the Green function	19/03/24	Offline	Chalk&Duster
39	Alternate procedure for construction of the Green Function b using its basic four properties	20/03/24	Offline	Chalk&Duster
40	Alternate procedure for construction of the Green Function b using its basic four properties	21/03/24	Offline	Chalk&Duster
41	Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	22/03/24	Offline	Chalk&Duster
42	Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	28/03/24	Offline	Chalk&Duster
43	Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	29/03/24	Offline	Chalk&Duster
44	Alternate procedure for construction of the Green Function b using its basic four properties	01/04/24	Offline	Chalk&Duster
45	Hilbert-Schmidt theory for symmetric kernels	02/04/24	Offline	Chalk&Duster
46	Hilbert-Schmidt theory for symmetric kernels	03/04/24	Offline	Chalk&Duster
47	Hilbert-Schmidt theory for symmetric kernels	04/04/24	Offline	Chalk&Duster
48	UNIT-IV	05/04/24	Offline	Chalk&Duster
49	Motivating problems of calculus of variations,	08/04/24	Offline	Chalk&Duster
50	Shortest distance	09/04/24	Offline	Chalk&Duster
51	Shortest distance	10/04/24	Offline	Chalk&Duster
52	Minimum surface of resolution	11/04/24	Offline	Chalk&Duster
53	Brachistochrone problem	12/04/24	Offline	Chalk&Duster
54	Isoperimetric problem	15/04/24	Offline	Chalk&Duster



	Euler equation for one dependant function	18/04/24	Offline	Chalk&Duster
	generalization to 'n' dependant functions and to higher order derivatives	19/04/24	Offline	Chalk&Duster
	generalization to 'n' dependant functions and to higher order derivatives	22/04/24	Offline	Chalk&Duster
8	Conditional extremum under geometric constraints And under integral constraints	23/04/24	Offline	Chalk&Duster
9	Conditional extremum under geometric constraints And under integral constraints	24/04/24	Offline	Chalk&Duster
10	Conditional extremum under geometric constraints And under integral constraints	25/04/24	Offline	Chalk&Duster
11	Revision	26/04/24	Offline	Chalk&Duster
12	Revision	29/04/24	Offline	Chalk&Duster
13	Revision	30/04/24	Offline	Chalk&Duster

Text Books:

1. A.J.Jerri, Introduction to Integral Equations with Applications, A Wiley-Inter science Publication, 1999.
2. R.P.Kanwal, Linear Integral Equations, Theory and Techniques, Academic Press, New York.
3. W.V.Lovitt, Linear Integral Equations, Mc Graw Hill, New York.

Reference Books:

1. F.B.Hilderbrand, Methods of Applied Mathematics, Dover Publications.
2. J.M.Gelfand and S.V.Fomin, Calculus of Variations, Prentice Hall, New Jersey, 1963.

Course Outcomes:

At the end of the course,
the student will be able to:

CO1. Understand the methods to reduce Initial value problems associated with linear differential equations to various integral equations.

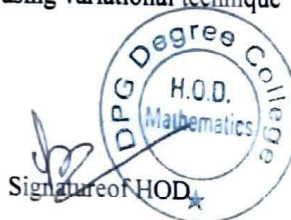
CO2. Categorise and solve different integral equations using various techniques.

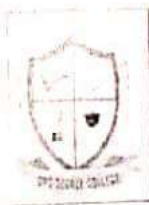
CO3. Describe importance of Green's function method for solving boundary value problems associated with non-homogeneous ordinary and partial differential equations, especially the Sturm-Liouville boundary value problems.

CO4. Learn methods to solve various mathematical and physical problems using variational technique

REMARKS:

Signature of Faculty





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LESSON- PLAN

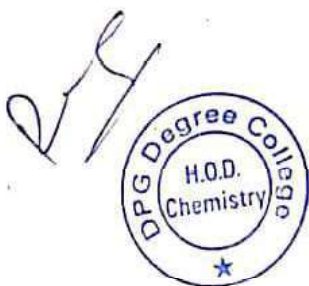
COURSE NAME: Bachelor of Science (Chemistry) Hons.

No. of Lecture Hours/Week	3/Week	Subject	Inorganic Chemistry
Total No. of Lecture Hours	50	Semester	2nd
Course Code:	CH(H)-201	Session	2023-24

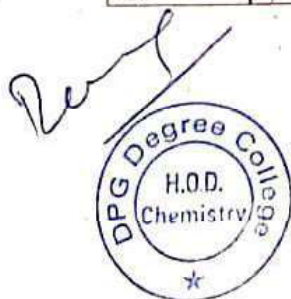
Staff Name & Designation: Ms.Versha Bhardwaj, Assistant Professor

Course Objectives:

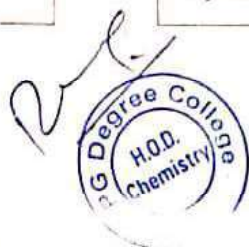
1. Comparative study of s-block elements.
2. Chemistry of analysis of various groups of basic and acidic radicals.
3. Comparative study of p-block elements.
4. Discussion of different oxides, hydrides, oxyacids, halides formed by p-block elements .
5. Dscussion of chemistry of p-block elements.



S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit-1	s-Block Elements: Comparative study	09/1/24	Regular	Chalk & Duster
2		diagonal relationships	09/1/24	Regular	Chalk & Duster
3		salient features of hydrides	15/1/24	Regular	Chalk & Duster
4		solvation	15/1/24	Regular	Chalk & Duster
5		complexation tendencies including their function in biosystems	15/1/24	Regular	Chalk & Duster
6		an introduction to alkyls	16/1/24	Regular	Chalk & Duster
7		an introduction to aryls	16/1/24	Regular	Chalk & Duster
8		Theory of Precipitation	22/1/24	Regular	Chalk & Duster
9		purification of precipitates	22/1/24	Regular	Chalk & Duster
10		co-precipitation and post precipitation	22/1/24	Regular	Chalk & Duster
11	Unit-2	Chemistry of analysis of various groups of basic radicals	24/1/24	Regular	Chalk & Duster
12		Chemistry of analysis of various groups of acidic radicals	24/1/24	Regular	Chalk & Duster
13		Chemistry of identification of acid radicals in typical combinations	29/1/24	Regular	Chalk & Duster
14		Chemistry of interferences of acid radicals	29/1/24	Regular	Chalk & Duster
15		Chemistry of interferences of acid radicals including their removal in the analysis of basic radicals.	30/1/24	Regular	Chalk & Duster
16	Unit-3	p-Block Elements - I Comparative study (including diagonal relationship) of groups 13 elements	12/2/24	Regular	Chalk & Duster
17		Comparative study (including diagonal relationship) of groups 14 elements	12/2/24	Regular	Chalk & Duster
18		Comparative study (including diagonal relationship) of groups 15 elements	13/2/24	Regular	Chalk & Duster
19		Comparative study (including diagonal relationship) of groups 16 elements	13/2/24	Regular	Chalk & Duster



20	Comparative study (including diagonal relationship) of groups 17 elements	19/2/24	Regular	Chalk & Duster
21	Hydrides of group 13	20/2/24	Regular	Chalk & Duster
22	Oxides of group 13	20/2/24	Regular	Chalk & Duster
24	Oxides, Hydrides of group 14	4/3/24	Regular	Chalk & Duster
24	Hydrides, Oxides of group 15	4/3/24	Regular	Chalk & Duster
25	Hydrides, Oxide of group 16	5/3/24	Regular	Chalk & Duster
26	Hydrides, Oxides of group 17	11/3/24	Regular	Chalk & Duster
27	Oxyacids, halides of groups 13	11/3/24	Regular	Chalk & Duster
28	Oxyacids, halides of groups 14	12/3/24	Regular	Chalk & Duster
29	Oxyacids, halides of groups 15	12/3/24	Regular	Chalk & Duster
30	Oxyacids, halides of groups 15	18/3/24	Regular	Chalk & Duster
31	Oxyacids, halides of groups 16	18/3/24	Regular	Chalk & Duster
32	hydrides of boron	19/3/24	Regular	Chalk & Duster
33	diborane and higher boranes	1/4/24	Regular	Chalk & Duster
34	Borazine	1/4/24	Regular	Chalk & Duster
35	Borohydrides	2/4/24	Regular	Chalk & Duster
36	Assignment	2/4/24	Regular	Chalk & Duster
37	p-Block Elements – II: Chemistry of fullereness	8/4/24	Regular	Chalk & Duster
38	Carbides	8/4/24	Regular	Chalk & Duster
39	Fluorocarbons	9/4/24	Regular	Chalk & Duster
40	Unit-4 silicates (structural principle)	9/4/24	Regular	Chalk & Duster
41		15/4/24	Regular	Chalk & Duster
42		15/4/24	Regular	Chalk & Duster
43		15/4/24	Regular	Chalk & Duster
44		16/4/24	Regular	Chalk & Duster



45	Chemistry of Noble Gases: Chemical properties of the noble gases	16/4/24	Regular	Chalk & Duster
46	chemistry of xenon	22/4/24	Regular	Chalk & Duster
47	structure and bonding in xenon compounds.	24/4/20 24	Regular	Chalk & Duster
48	Assignment, Revision	24/4/20 24	Regular	Chalk & Duster
49	Class test, Previous year paper discussion	29/4/20 24	Regular	Chalk & Duster
50	Class Test Discussion, Revision	30/4/20 24	Regular	Chalk & Duster

Reference Books

1. Lee, J.D. Concise Inorganic Chemistry, ELBS, 1991.
2. Douglas, B.E. and Mc Daniel, D.H., Concepts & Models of Inorganic Chemistry, Oxford, 1970.
3. Atkins, P.W. & Paula, J. Physical Chemistry, Oxford Press, 2006.
4. Day, M.C. and Selbin, J. Theoretical Inorganic Chemistry. ACS Publications 1962.

Course Outcomes:

CO1 Understand the Comparative study of s-block elements.

CO2 Understand the Comparative study of p-block elements.

CO3 Understand the Chemistry of analysis of various groups of basic and acidic radicals

CO4 Understand the concept of different oxides, hydrides, oxyacids, halides etc. formed by p-block elements.



(Signature of H.O.D.)

(Signature of staff-in-charge)



DPG DEGREE COLLEGE

(Affiliated to MDU Rohtak)

Sector-34, Near Marble Market, Gurugram-122001

LESSON- PLAN

Course Name: Bachelor in Journalism & Mass Communication

Subject	Creative and Journalistic Writing
Semester	2nd
Session	2023-24
No. of Lecture Hours/Week	5/Week
Total No. of Lecture Hours	
Course Code:	

Staff Name & Designation: Ms. Arushi Jaiswal , Assistant Professor

Course Objectives:

1. To Teach students the Concepts, theories , and methods for creative & journalistic writing.
2. To train students to ascertain the skills to write Feature, articles, reports and creative content.
3. To produce a portfolio of their original writings.
4. To prepare students for graduate study.

Arushi

S.NO.	Unit No.	Topics to be covered	Date	*Nature of Class	Teaching Aid
1	Unit I	Creative writing - Definitions and Forms	19.1.2023	Offline class	
2		Concept and meaning of creative writing	20.1.2023	Offline class	
3		Types of creative writing	26.1.2023	Offline class	
4		Practical/Creating original writings	27.1.2023	Offline class	
5		Writing & Presentation session	1.2.2023	Offline class	Writing & presentation
6		Beyond news writing	2.2.2023	Offline class	
7		Difference between formal & Informal writing styles	3.2.2023	Offline class	PPT
8		Writing practices for print and Digital platforms	16.2.2023	Offline class	
9		Styles of writing: Narrative, Descriptive, Persuasive, Comparative, Reflective and Personal	17.2.2023	Offline class	PPT
10		Writing & Presentation session	20.2.2023	Offline class	Writing & presentation
11		New trends in creative writing	21.2.2023	Offline class	
12		New trends in news writing	22.2.2023	Offline class	
13		Difference in writing for print, TV & Digital Medium	23.2.2023	Offline class	
14	UNIT II	Revision	24.2.2023	Offline class	
15		Writing Test	27.2.2023	Offline class	
16		Essential elements of Creative writing	28.2.2023	Offline class	PPT
17		Elements for good writing	1.3.2023	Offline class	
18		Difference between Essay & Article	2.3.2023	Offline class	PPT
19		Practical: Writing of Article & Reports for DPG newspaper	6.3.2023	Offline class	Writing & presentation

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20		What is feature in the newspaper?	13.3.2023	Offline class	PPT
21		Different types of features in writing	14.3.2023	Offline class	PRESENTATION
22		Difference between article & feature	15.3.2023	Offline class	PPT
23		Qualities of good feature	16.3.2023	Offline class	PPT
24		Elements to be taken in consideration by a Feature writer	17.3.2023	Offline class	PPT
25		Class activity: Search 5 feature stories from newspaper and differentiate its types	20.3.2023	Offline class	PPT
26		Style of writing in newspaper	21.3.2023	Offline class	Writing & presentation
27		Understanding the concept of 5W1H	22.3.2023	Offline class	Writing & presentation
28		Practical: Writing news reports, Feature stories for Dpg Newspaper	23.3.2023	Offline class	Writing & presentation
29		Revision	24.3.2023	Offline class	
30	UNIT III	What is an editorial?	27.3.2023	Offline class	PPT
31		Writing editorial for newspaper & magazines	28.3.2023	Offline class	Writing & presentation
32		Importance of editorial writing	29.3.2023	Offline class	PPT
33		Types of editorial writing	31.3.2023	Offline class	PPT
34		Class activity: Identify the type of editorial in daily newspaper & magazine	3.4.2023	Offline class	Writing & presentation
35		Essential of article writing	4.4.2023	Offline class	PPT
36		Different type of articles	5.4.2023	Offline class	PPT
37		Practical: Write articles, report, editorial, Creative reports for Dpg Newspaper	6.4.2023	Offline class	Writing & presentation
38		What is a letter to the editor?	7.4.2023	Offline class	PPT
39		Class activity: cut out 2 letter to editor from newspaper (Hindi/English newspaper each)	10.4.2023	Offline class	Writing & presentation
40		Write letter to the editor Focusing on the ground level issues in their area	11.4.2023	Offline class	Writing & presentation
41		Practical: Write letter to editor for DPG newspaper	12.4.2023	Offline class	Writing & presentation

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42		Revision	13.4.2023	Offline class	
43		Practical: Write articles, report, editorial, Poem, Short stories, Creative writings for Dpg Newspaper	14.4.2023	Offline class	Writing & presentation
44		Group Discussion on Social Issues that should be addressed in newspaper by the editors	17.4.2023	Offline class	Discussion
45	UNIT IV	What is Reviewing & Criticism?	18.4.2023	Offline class	discussion
46		How to analyze the content/film/book for review	19.4.2023	Offline class	ppt
47		Format for Book review	20.4.2023	Offline class	book reading/ppt
48		Class activity: Writing a short review on a book/novel	21.4.2023	Offline class	Writing & presentation
49		Class Activity: Watch Indian parallel cinema Film on social issue	24.4.2023	Offline class	film
50	UNIT IV	Discussion of the film	25.4.2023	Offline class	discussion
51		Class activity: Writing review on film	26.4.2023	Offline class	Writing & presentation
52		New trends and elements in reviewing of book or film	1.5.2023	Offline class	discussion
53		Practical: Write book review or a latest film review for Dpg Newspaper	2.5.2023	Offline class	Writing & presentation
54		Practical: Make a separate monthly Review section (column) in Dpg Newspaper	3.5.2023	Offline class	Writing & presentation
55		Revision	4.5.2023	Offline class	
56		Discussion on new trends in Novel (book) Writing	5.5.2023	Offline class	
57		Use of digital media for reviewing book/film/content	8.5.2023	Offline class	softwares/ppt
58		Revision	8.5.2023	Offline class	
59		Revision	9.5.2023	Offline class	
60		Revision	9.5.2023	Offline class	

3/5/23

Reference Books :


1. Creative Writing: A Beginners Manual by Anjana Neira Dev and Anuradha Marwah and Swati Pal
2. Art Of News Writing Technique by Kishore Sharma


Course Outcomes

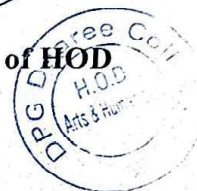
At the end of the course, the student will be able to:

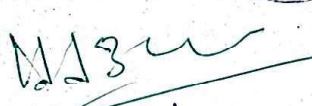
1. Students will be able to understand the need for creative writing and journalistic approach.
2. Students will be able to understand the difference between creative and journalistic writing.
3. Students will ascertain the skills to write Feature, articles, reports and creative content for publications.
4. Students will be able to demonstrate the scripts of various programmes and shows that have been broadcasted or go on Air or Published.
5. Students will produce a portfolio of their original writings.

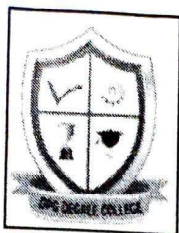
REMARKS:


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LESSON- PLAN

COURSE NAME: Bachelor in Business Administration .

No. of Lecture Hours/Week	5/Week	Subject	Principles of Management
Total No. of Lecture Hours	67	Semester	2nd
Course Code:	BBAN-201	Session	2023-24

Staff Name & Designation: Ms. Ankita

Assistant Professor

Course Objectives:

Course Objectives:

1. To familiarize the students with the Concepts and Principles of Management and to train them in Practical and Managerial skills.
2. To help the students gain understanding of the functions and responsibilities of managers.
3. To provide them tools and techniques to be used in the performance of the managerial job.
4. To enable them to analyse and understand the environment of the organization.
5. To help the students to develop cognizance of the importance of management principles.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Nature of Management	9.01.2024	Offline class	White board & Marker
2		Nature of Management	10.01.2024	Offline class	PPT Presentation
3		Principles of management	11.01.2024	Offline class	PPT Presentation
4		Principles of management	12.01.2024	Offline class	PPT Presentation
5		Process of management	15.01.2024	Offline class	PPT Presentation
6		Process of management	16.01.2024	Offline class	PPT Presentation
7		Basic managerial roles and skills	17.01.2024	Offline class	PPT Presentation
8		Basic managerial roles and skills	18.01.2024	Offline class	PPT Presentation
9		Basic managerial roles and skills	19.01.2024	Offline class	PPT Presentation
10		Nature of managerial work	22.01.2024	Offline class	PPT Presentation
11		Approaches to management	23.01.2024	Offline class	PPT Presentation
12		Approaches to management	24.01.2024	Offline class	White board & Marker

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13		Approaches to management	25.01.2024	Offline class	Pen and Notebook
14		Contemporary issues and challenges	29.01.2024	Offline class	White board & Marker
15		Contemporary issues and challenges	30.01.2024	Offline class	PPT Presentation
16		Planning and decision making concept	31.01.2024	Offline class	PPT Presentation
17	Unit II	Planning and decision making concept	1.02.2024	Offline class	White board & Marker
18		Planning and decision making concept	2.02.2024	Offline class	PPT Presentation
19		Kinds of plans	5.02.2024	Offline class	PPT Presentation
20		Strategic planning	6.02.2024	Offline class	PPT Presentation
21		Tactical planning	7.02.2024	Offline class	PPT Presentation
22		Operational planning	8.02.2024	Offline class	PPT Presentation
23		Goal setting, MBO	9.02.2024	Offline class	PPT Presentation
24		Decision making,nature & process	12.02.2024	Offline class	PPT Presentation
25		Decision making,nature & process	13.02.2024	Offline class	PPT Presentation
26		Behavioural aspects of decision making	14.02.2024	Offline class	PPT Presentation
27		Behavioural aspects of decision	15.02.2024	Offline	PPT

		making	4	class	Presentatio n
28		Forms of group discussion	16.02.202 4	Offline class	White board & Marker
29		Forms of group discussion	19.02.202 4	Offline class	White board & Marker
30		Revision	20.02.202 4	Offline class	White board & Marker
31	UNIT III	Introduction of Unit 3	21.02.202 4	Offline class	White board & Marker
32		Organizing and leading elements of organizing	22.02.202 4	Offline class	PPT Presentatio n
33		division of work	23.02.202 4	Offline class	PPT Presentatio n
34		division of work	4.03.2024	Offline class	PPT Presentatio n
35		departmentalization	5.03.2024	Offline class	PPT Presentatio n
36		departmentalization	6.03.2024	Offline class	PPT Presentatio n
37		distribution of authority	7.03.2024	Offline class	PPT Presentatio n
38		distribution of authority	8.03.2024	Offline class	PPT Presentatio n
39		coordination	11.03.202 4	Offline class	PPT Presentatio n
40		coordination	12.03.202 4	Offline class	PPT Presentatio n
41		coordination	13.03.202	Offline	PPT

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	4	class	Presentation
organization structure and design	14.03.2024	Offline class	PPT Presentation
organization structure and design	15.03.2024	Offline class	PPT Presentation
organization structure and design	18.03.2024	Offline class	PPT Presentation
leadership – nature and significance	19.03.2024	Offline class	PPT Presentation
leadership – nature and significance	20.03.2024	Offline class	White board & Marker
leadership – nature and significance	21.03.2024	Offline class	White board & Marker
leadership styles	22.03.2024	Offline class	PPT Presentation
leadership styles	28.03.2024	Offline class	PPT Presentation
leadership styles	29.03.2024	Offline class	PPT Presentation
behavioral and situational approaches to leadership	1.04.2024	Offline class	PPT Presentation
behavioral and situational approaches to leadership	2.04.2024	Offline class	PPT Presentation
Introduction unit 4	3.04.2024	Offline class	PPT Presentation
Management control – nature,	4.04.2024	Offline class	White board & Marker
Management control – nature,	5.04.2024	Offline	White

	UNIT IV			class	board & Marker
56		purpose and process of controlling	8.04.2024	Offline class	PPT Presentatio n
57		purpose and process of controlling	9.04.2024	Offline class	White board & Marker
58		kinds of control system	10.04.202 4	Offline class	PPT Presentatio n
59		kinds of control system	11.04.202 4	Offline class	White board & Marker
60		prerequisites of effective control system	12.04.202 4	Offline class	PPT Presentatio n
61		prerequisites of effective control system	22.04.202 4	Offline class	PPT Presentatio n
62		prerequisites of effective control system	23.04.202 4	Offline class	White board & Marker
63		resistance to control	24.04.202 4	Offline class	PPT Presentatio n
64		Controlling techniques	25.04.202 4	Offline class	White board & Marker
65		Controlling techniques	26.04.202 4	Offline class	PPT Presentatio n
66		social audit.	29.04.202 4	Offline class	White board & Marker
67		Revision	30.04.202 4	Offline class	PPT Presentatio n

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Sector-34, Gur...



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D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: Masters of Business Administration

No. of Lecture Hours/Week	5	Subject	Financial Management
Total No. of Lecture Hours	47	Semester	2nd
Course Code:	19IMG22C1	Session	2023-24

Staff Name & Designation: Dr. Deepti Tanwar (Assistant professor)

Course Objectives:

1. To build in depth knowledge among students about the concept and rationale of Financial Management.
2. This subject explains the computation of capital Budgeting.
3. This course explain various financial tools and techniques, beneficial for firm to maximize value by improving decisions related to capital structure, dividend policy and working capital management.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1		Introduction to FM,	9.01.24	Offline	Chalk & duster
2		Evolution & Scope of FM	10.01.24	Offline	Chalk & duster
3		Functions of FM	11.01.24		
4		Organization of finance managers	12.01.24	Offline	Chalk & duster
5		Objectives of financial management	16.01.24	Offline	Chalk & duster
6		Time value of money	17.01.24	Offline	Chalk & duster
7		Techniques of TVM	18.01.24	Offline	Chalk & duster
8		Revision Test	19.01.24		
		UNIT 2	23.01.24		
9		Investment Decisions: Introduction	25.01.24	Offline	Chalk & duster
10		Capital budgeting importance	30.01.24	Offline	Chalk & duster
11		Difficulties in investment decision	31.01.24	Offline	Chalk & duster
12		Methods of capital budgeting	1.02.24	Offline	Chalk & duster
13		ARR Technique & Numericals	2.02.24	Offline	Chalk & duster
14		PB period Technique & Numericals	6.02.24	Offline	Chalk & duster

Dr. Jyoti

15	NPV Technique & Numericals	7.02.24	Offline	Chalk & duster
16	Profitability Index Technique & Numericals	13.02.24	Offline	Chalk & duster
17	IRR Method Technique & Numericals	14.02.24	Offline	Chalk & duster
18	Numerical Problem Solving Practice	15.02.24	Offline	Chalk & duster
19	Revision	20.02.24		
20	Cost of capital: Introduction	21.02.24	Offline	Chalk & duster
21	Methods of Cost of Capital	22.02.24		
22	Financing Decision	23.02.24	Offline	Chalk & duster
23	Leverage Feature & Importance	4.03.24	Offline	Chalk & duster
24	Operational & Financial Leverage	5.03.24		
	Unit 3	6.03.24		
25	Capital structure	8.03.24	Offline	Chalk & duster
26	Importance of Capital Structure	12.03.24		
27	NI Approach	13.03.24	Offline	Chalk & duster
28	NOI Approach	15.03.24	Offline	Chalk & duster
29	Traditional Approach	19.03.24	Offline	Chalk & duster
30	M & M Approach	20.03.24		
31	EBIT-EPS Analysis	21.03.24	Offline	Chalk & duster
32	Revision Test	22.03.24	Offline	Chalk & duster
	UNIT 4	28.03.24	Offline	Chalk & duster

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33	Dividend Decision	29.03.24	Offline	Chalk & duster
34	Determinants of dividend policy	2.04.24	Offline	Chalk & duster
35	Walter model dividend policy	3.04.24	Offline	Chalk & duster
36	Gordan Model DP	4.04.24		
37	Management of working capital;	06.04.24	Offline	Chalk & duster
38	Operating Cycle,	09.04.24	Offline	Chalk & duster
39	management of cash	10.04.24	Offline	Chalk & duster
40	management of cash	11.04.24	Offline	Chalk & duster
41	management of receivable	22.04.24	Offline	Chalk & duster
42	management of inventory	24.04.24	Offline	Chalk & duster
43	simple problem on operating cycle	25.04.24	Offline	Chalk & duster
44	Problems on inventory management	26.04.24	Offline	Chalk & duster
45	Revision Test	30.09.24	Offline	Chalk & duster

Text Books:

1. Management Accounting and Financial Management (D. K. Goyal)

Reference Books

1. Financial management (I.M Pandey)
2. Financial management (V.K. Bhalla)

Dubbs

Course Outcomes:

At the end of the course, the student will be able to:

CO1 – Students will be able to grasp the knowledge about the meaning, nature and Importance of ~~Fin~~ Management and also the concept of cost of Capital.

CO2 – Students will be able to clarify the concept of working capital and receivable management.

CO3 – Will help the students to understand the detailed concept of Capitalization.

CO4 – Will acquaint the students with leverages, Capital Structure and Dividend Decisions.

Signature of Faculty

Signature of HOD



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Sector-34, Gurugram



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Master of Science

No. of Lecture Hours/Week	5/Week	Subject	Viscous Fluid Dynamics
Total No. of Lecture Hours	63	Semester	4th
Course Code:	MAT24C3	Session	2023-2024

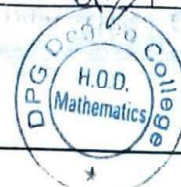
Staff Name & Designation: Pooja Goel, Assistant Professor

Course Objectives:

1. Viscous fluid flow covers the fundamentals of fluid mechanics from an advanced point of view
2. Course will cover the derivation of Navier-Stokes equations, exact solutions for simplified configurations, Laminar flows.
3. Course will help to understanding of concepts in viscous fluid flow.



NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
	Unit 1	Vorticity in two dimensions	9/01/2024	Offline class	Chalk&Dust
		Circular and rectilinear vortices	10/01/2024	Offline class	Chalk&Dust
		Vortex doublet	11/01/2024	Offline class	Chalk&Dust
		Images,	12/01/2024	Offline class	Chalk&Dust
		Motion due to vortices,	15/01/2024	Offline class	Chalk&Dust
		Single infinite rows of vortices	16/01/2024	Offline class	Chalk&Dust
		Double infinite rows of vortices	17/01/2024	Offline class	Chalk&Dust
		Karman vortex street	18/01/2024	Offline class	Chalk&Dust
		Wave motion in a Gas	19/01/2024	Offline class	Chalk&Dust
0		Speed of sound in a gas.	22/01/2024	Offline class	Chalk&Dust
1		Equation of motion of a Gas	23/01/2024	Offline class	Chalk&Dust
2		Subsonic, sonic and supersonic flows	24/01/2024	Offline class	Chalk&Dust
13		Isentropic gas flow, Flow through a nozzle.	25/01/2024	Offline class	Chalk&Dust
14		Assignment	29/01/2024	Offline class	Chalk&Dust
15		Assignment Discussion	30/01/2024	Offline class	Chalk&Dust
	Unit 2	Class Test	1/02/2024	Offline class	Chalk&Dust
17		Stress components in a real fluid	2/02/2024	Offline class	Chalk&Dust
18		Relation between Cartesian components of stress	12/02/2024	Offline class	Chalk&Dust
19		Translational motion of fluid element	13/02/2024	Offline class	Chalk&Dust
20		Rates of strain	14/02/2024	Offline class	Chalk&Dust
21		Transformation of rates of strains	15/02/2024	Offline class	Chalk&Dust
22		Relation between stresses and rates of strain	16/02/2024	Offline class	Chalk&Dust



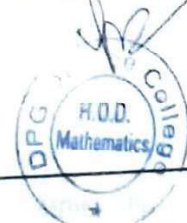
23		Co-efficient of viscosity, laminar flow.	19/02/2024	Offline class	Chalk&Dust
24		Newtonian and non-Newtonian fluids.	20/02/2024	Offline class	Chalk&Dust
25		Navier-Stoke equations of motion	21/02/2024	Offline class	Chalk&Dust
26		Equations of motion in cylindrical and spherical polar coordinates	22/02/2024	Offline class	Chalk&Dust
27		Diffusion of vorticity	23/02/2024	Offline class	Chalk&Dust
28		Energy dissipation due to viscosity.	4/03/2024	Offline class	Chalk&Dust
29		Assignment	5/03/2024	Offline class	Chalk&Dust
30		Class Test	6/03/2024	Offline class	Chalk&Dust
31	Unit-3	Plane Poiseuille between two parallel plates	7/03/2024	Offline class	Chalk&Dust
32		Couette flows between two parallel plates	8/03/2024	Offline class	Chalk&Dust
33		Theory of lubrication	11/03/2024	Offline class	Chalk&Dust
34		Hagen Poiseuille flow	12/03/2024	Offline class	Chalk&Dust
35		Steady flow between co-axial circular cylinders	13/03/2024	Offline class	Chalk&Dust
36		Steady flow between concentric rotating cylinders	14/03/2024	Offline class	Chalk&Dust
37		Flow through tubes of uniform elliptic cross-section	18/03/2024	Offline class	Chalk&Dust
38		Flow through tubes of uniform equilateral triangular cross-section	19/03/2024	Offline class	Chalk&Dust
39		Unsteady flow over a flat plate	20/03/2024	Offline class	Chalk&Dust
40		Steady flow past a fixed sphere	21/03/2024	Offline class	Chalk&Dust
41		Flow in convergent and divergent channels.	22/03/2024	Offline class	Chalk&Dust
42		Assignment	25/03/2024	Offline class	Chalk&Dust
43		Assignment discussion	26/03/2024	Offline class	Chalk&Dust
44		Class Test	27/03/2024	Offline class	Chalk&Dust



45	Unit-4	Dynamical similarity	28/03/2024	Offline class	Chalk&Dust
46		Inspection analysis	29/03/2024	Offline class	Chalk&Dust
47		Non-dimensional numbers	1/04/2024	Offline class	Chalk&Dust
48		Dimensional analysis.	2/04/2024	Offline class	Chalk&Dust
49		Buckingham π -theorem	3/04/2024	Offline class	Chalk&Dust
50		Application of Buckingham π -theorem	4/04/2024	Offline class	Chalk&Dust
51		Physical importance of non-dimensional Parameter	5/04/2024	Offline class	Chalk&Dust
52		Prandtl boundary layer	8/04/2024	Offline class	Chalk&Dust
53		Boundary layer equation in two-dimensions	9/04/2024	Offline class	Chalk&Dust
54		The boundary layer on a flat plate (Blasius solution).	10/04/2024	Offline class	Chalk&Dust
55		Characteristic boundary layer parameters	11/04/2024	Offline class	Chalk&Dust
56		Karman integral conditions.	12/04/2024	Offline class	Chalk&Dust
57		Karman-Pohlhausen method	22/04/2024	Offline class	Chalk&Dust
58		Assignment	23/04/2024	Offline class	Chalk&Dust
59		Assignment Discussion	24/04/2024	Offline class	Chalk&Dust
60		Class Test	25/04/2024	Offline class	Chalk&Dust
61		Discussion of Previous Years MDU papers	26/04/2024	Offline class	Chalk&Dust
62		Discussion of Previous Years MDU papers	29/04/2024	Offline class	Chalk&Dust
63		Discussion of Previous Years MDU papers	30/04/2024	Offline class	Chalk&Dust

Text Books:

1. W.H. Besaint and A.S. Ramasey, A Treatise on Hydromechanics, Part II, CBS Publishers, Delhi, 1988.
2. F. Chorlton, Text Book of Fluid Dynamics, C.B.S. Publishers, Delhi, 1985



3. O'Neill, M.E. and Chorlton, F., Ideal and Incompressible Fluid Dynamics, Ellis Horwood Limited, 1986.

Reference Books

1. S.W. Yuan, Foundations of Fluid Mechanics, Prentice Hall of India Private Limited, New Delhi, 1976.
2. H. Schlichting, Boundary-Layer Theory, McGraw Hill Book Company, New York, 1979.
3. R.K. Rathi, An Introduction to Fluid Dynamics, Oxford and IBH Publishing Company, New Delhi, 1976.
4. G.K. Batchelor, An Introduction to Fluid Mechanics, Foundation Books, New Delhi

Course Outcomes:

CO1 To Understand about vortex motion and its permanence, rectilinear vortices, vortex images and specific types of rows of vortices.

CO2 To mathematically the compressible fluid flow and describe various aspects of gas flow.

CO3 To Acquire knowledge of viscosity, relation between shear stress and rates of shear strain for Newtonian fluids, energy dissipation due to viscosity, and laminar and turbulent flows.

CO4 To Derive the equations of motion for a viscous fluid flow and use them for study of flow Newtonian fluids in pipes and ducts for laminar flow fields, and their applications in mechanical engineering.

CO5 To Get familiar with dimensional analysis and similitude, and understand the common dimensional numbers of fluid dynamics along with their physical and mathematical significance.

REMARKS:

Pooja Goel

Signature of Staff In-charge



Pooja Goel

Signature of HOD



D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: Master of Science

No. of Lecture Hours/Week	5	Subject	General Topology
Total No. of Lecture Hours	63	Semester	IV
Course Code:	17MAT24DA1	Session	2023-24

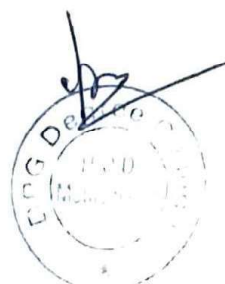
Staff Name: Ms. Ruma

Designation: Assistant Professor

Course Objectives:

Course Objectives:

1. To understand the concept of topological spaces and continuous functions, product topology and quotient topology.
2. To Prove a selection of theorems concerning topological spaces, continuous functions, product topologies, and quotient topologies,
3. To understand the concepts of the separation axioms, connectedness and compactness, and prove a selection of related theorems,
4. Describe different examples distinguishing general, geometric, and algebraic topology.



Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
UNIT-I	Regular space	9/01/23	Offline	Chalk & Duster
	Examples of Regular space	10/01/24	Offline	Chalk & Duster
	Theorems of Regular space	11/01/24	Offline	Chalk & Duster
	Normal space	12/01/24	Offline	Chalk & Duster
	Theorems of Normal space	15/01/24	Offline	Chalk & Duster
	T3 space	16/01/24	Offline	Chalk & Duster
	Theorem of T3 space	17/01/24	Offline	Chalk & Duster
	T4 separation axioms	18/01/24	Offline	Chalk & Duster
	T4 separation axioms & examples	19/01/24	Offline	Chalk & Duster
	characterization and basic properties of T4	22/01/24	Offline	Chalk & Duster
	characterization and basic properties of T4	23/01/24	Offline	Chalk & Duster
	Urysohn lemma	24/01/24	Offline	Chalk & Duster
	Urysohn lemma	25/01/24	Offline	Chalk & Duster
	Tietze extension theorem	29/01/24	Offline	Chalk & Duster
	Tietze extension theorem	30/01/24	Offline	Chalk & Duster
	Tietze extension theorem	31/01/24	Offline	Chalk & Duster
	Regularity and normality of a compact	01/02/24	Offline	Chalk & Duster
	Regularity and normality of a compact	02/02/24	Offline	Chalk & Duster
	Hausdorff space	12/02/24	Offline	Chalk & Duster
	Complete regularity	13/02/24	Offline	Chalk & Duster
	T1 and T5 spaces	14/02/24	Offline	Chalk & Duster
	T1 and T5 spaces	15/02/24	Offline	Chalk & Duster
	Their characterization and basic properties	16/02/24	Offline	Chalk & Duster
UNIT-II	Product topological spaces,	19/02/24	Offline	Chalk & Duster
	Product topological spaces	20/02/24	Offline	Chalk & Duster
	Projection mappings	21/02/24	Offline	Chalk & Duster
	Tychonoff product topology in terms of standard subbases and its characterization	22/02/24	Offline	Chalk & Duster
	Separation axioms	23/02/24	Offline	Chalk & Duster
	product spaces	04/03/24	Offline	Chalk & Duster
	Connectedness	05/03/24	Offline	Chalk & Duster
	Locally connectedness	06/03/24	Offline	Chalk & Duster
	compactness of product spaces	07/03/24	Offline	Chalk & Duster
	Product space as first axiom space	08/03/24	Offline	Chalk & Duster
	Tychonoff product theorem.	11/03/24	Offline	Chalk & Duster

		Embedding and Metrization and Embedding lemma	12/03/24	Offline	Chalk & Duster
		Tychonoff embedding theorem	13/03/24	Offline	Chalk & Duster
		Metrizable spaces	18/03/24	Offline	Chalk & Duster
		Urysohn metrization theorem	19/03/24	Offline	Chalk & Duster
1	UNIT-III	Nets : Nets in topological spaces	20/03/24	Offline	Chalk & Duster
2		Nets in topological spaces	21/03/24	Offline	Chalk & Duster
3		Convergence of nets	22/03/24	Offline	Chalk & Duster
4		Hausdorffness and nets	28/03/24	Offline	Chalk & Duster
5		Filters : Definition and examples	29/03/24	Offline	Chalk & Duster
6		Collection of all filters on a set as a poset	01/04/24	Offline	Chalk & Duster
7		Methods of generating filters	02/04/24	Offline	Chalk & Duster
8		finer filters	03/04/24	Offline	Chalk & Duster
9		Ultra filter and its characterizations	04/04/24	Offline	Chalk & Duster
0		Ultra filter principle	05/04/24	Offline	Chalk & Duster
1		Image of filter under a function	08/04/24	Offline	Chalk & Duster
2		Limit point and limit of a filter	09/04/24	Offline	Chalk & Duster
3		Hausdorffness and filters	10/04/24	Offline	Chalk & Duster
4		Canonical way of converting nets to filters and vice versa	11/04/24	Offline	Chalk & Duster
5		Stone-Cech compactification(Statement Only)	12/04/24	Offline	Chalk & Duster
6	UNIT-IV	Covering of a space	15/04/24	Offline	Chalk & Duster
7		Michael theorem on characterization of paracompactness	18/04/24	Offline	Chalk & Duster
8		Paracompactness as normal space	19/04/24	Offline	Chalk & Duster
9		Paracompactness as normal space	22/04/24	Offline	Chalk & Duster
0		A. H. Stone theorem	23/04/24	Offline	Chalk & Duster
1		Nagata- Smirnov Metrization theorem	24/04/24	Offline	Chalk & Duster
2		Revision	25/04/24	Offline	Chalk & Duster
3		Revision	26/04/24	Offline	Chalk & Duster
		Revision	29/04/24	Offline	Chalk & Duster
		Revision	30/04/24	Offline	Chalk & Duster

Text Books:

1. K.D. Joshi, Introduction to General Topology, Wiley Eastern Ltd. J. L. Kelly,
2. General Topology, Springer Verlag, New York, 2000.
3. J. R. Munkres, Topology, Pearson Education Asia, 2002.

Reference Books:

1. George F. Simmons, Introduction to Topology and Modern Analysis, McGraw- Hill Book Company, 1963
2. W.J. Pervin, Foundations of General Topology, Academic Press Inc. New York, 1964.
3. K. Chandrasekhara Rao, Topology, Narosa Publishing House Delhi, 2009. Fred H. Croom, Principles of Topology, Cengage Learning, 2009.

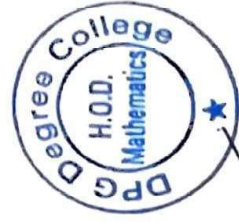
Course Outcomes:

At the end of the course, the student will be able to:

- CO1. Have the knowledge of the separation axioms.
- CO2. Understand the concept of product topological spaces and their properties.
- CO3. Be familiar with Tychonoff embedding theorem and Urysohn's metrization theorem.
- CO4. Know about methods of generating nets and filters and their relations.
- CO5. Describe paracompact spaces and their characterizations.

REMARKS:

Signature of Faculty



Signature of HOD



DPG DEGREE COLLEGE

Sector-34, Gurugram-122001

LESSON- PLAN

Program Name: M.Sc. Zoology

Semester: IV

Course Name: Advances in Vermiculture

No. of Lecture Hours / Week	5/ Week	Exam Hours	3
Total No. of Lecture Hours		Exam Marks	80
Course Code	20ZOO24C2	Session	2023-24

Staff Name & Designation: Ms. Swati, Asst. Professor

Course Objectives:

1. To explore the important of earthworms in agro-ecosystems
2. To understand the role of Earthworms in management of municipal/selected biomedical solid wastes
3. To understand the process of vermicompost formation using garden/vegetative waste on small scale.



DPG DEGREE COLLEGE

Sector-34, Gurugram-122001

LESSON- PLAN

Program Name: M.Sc. Zoology

Semester: IV

Course Name: Advances in Vermiculture

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Course Objectives:

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Sr. No.	Unit No.	Topics to be covered	Date	*Nature of Class	Teaching Aid
1.	UNIT 1	General Introduction	09/01/2024	Regular	Chalk and duster
2.		Earthworms: Taxonomic position & Morphology	10/01/2024	Regular	Chalk and duster
3.		Earthworms: Taxonomic position & Morphology	11/01/2024	Regular	Chalk and duster
4.		Earthworms: Taxonomic position & Morphology	12/01/2024	Regular	Chalk and duster
5.		Diversity	15/01/2024	Regular	Chalk and duster
6.		Diversity	16/01/2024	Regular	Chalk and duster
7.		Diversity in India	17/01/2024	Regular	Chalk and duster
8.		External and internal anatomy: Nervous system	18/01/2024	Regular	Chalk and duster
9.		External and internal anatomy: Nervous system	19/01/2024	Regular	Chalk and duster
10.		External and internal anatomy: Nervous system	22/01/2024	Regular	Chalk and duster
11.		External and internal anatomy: Digestive system	23/01/2024	Regular	Chalk and duster
12.		External and internal anatomy: Digestive system	24/01/2024	Regular	Chalk and duster
13.		External and internal anatomy: Digestive system	25/01/2024	Regular	Chalk and duster
14.		Morphological and ecological grouping	29/01/2024	Regular	Chalk and duster
15.		Morphological and ecological grouping	30/01/2024	Regular	Chalk and duster
16.		Morphological and ecological grouping	31/01/2024	Regular	Chalk and duster
17.		Morphological and ecological grouping	01/02/2024	Regular	Chalk and duster
18.		Ecological and economic importance of earthworms	02/02/2024	Regular	Chalk and duster
19.		Ecological and economic importance of earthworms	05/02/2024	Regular	Chalk and duster

20.		Ecological and economic importance of earthworms	06/02/2024	Regular	Chalk and duster
21.		Ecological and economic importance of earthworms	07/02/2024	Regular	Chalk and duster
22.		Useful and local species	08/02/2024	Regular	Chalk and duster
23.		Useful and local species	09/02/2024	Regular	Chalk and duster
24.		Useful and local species	12/02/2024	Regular	Chalk and duster
25.	UNIT 2	Vermiculture – definition, scope and importance	13/02/2024	Regular	Chalk and duster
26.		Vermiculture – definition, scope and importance	15/02/2024	Regular	Chalk and duster
27.		Vermiculture – definition, scope and importance	16/02/2024	Regular	Chalk and duster
28.		Vermiculture – definition, scope and importance	19/02/2024	Regular	Chalk and duster
29.		Exotic species: Biology of <i>Eisenia fetida</i>	20/02/2024	Regular	Chalk and duster
30.		Exotic species: Biology of <i>Eisenia fetida</i>	21/02/2024	Regular	Chalk and duster
31.		Exotic species: Biology of <i>Eisenia fetida</i>	22/02/2024	Regular	Chalk and duster
32.		Exotic species: Biology of <i>Eisenia fetida</i>	23/02/2024	Regular	Chalk and duster
33.		Biology of <i>Eudrilus eugeniae</i>	26/02/2024	Regular	Chalk and duster
34.		Biology of <i>Eudrilus eugeniae</i>	27/02/2024	Regular	Chalk and duster
35.		Biology of <i>Eudrilus eugeniae</i>	28/02/2024	Regular	Chalk and duster
36.		Biology of <i>Eudrilus eugeniae</i>	29/02/2024	Regular	Chalk and duster
37.		Anatomy of exotic species	01/03/2024	Regular	Chalk and duster
38.		Anatomy of exotic species	04/03/2024	Regular	Chalk and duster

39.		Anatomy of exotic species.	05/03/2024	Regular	Chalk and duster
40.		Anatomy of exotic species	06/03/2024	Regular	Chalk and duster
41.		Reproduction of exotic species	07/03/2024	Regular	Chalk and duster
42.		Reproduction of exotic species	11/03/2024	Regular	Chalk and duster
43.		Reproduction of exotic species	12/03/2024	Regular	Chalk and duster
44.	UNIT 3	Culture methods: indoors and out door	13/03/2024	Regular	Chalk and duster
45.		Culture methods: indoors and out door	14/03/2024	Regular	Chalk and duster
46.		Culture methods: monoculture and polyculture	15/03/2024	Regular	Chalk and duster
47.		Applications of Vermiculture	18/03/2024	Regular	Chalk and duster
48.		Applications of Vermiculture	19/03/2024	Regular	Chalk and duster
49.		Vermiculture biotechnology	20/03/2024	Regular	Chalk and duster
50.		Vermiculture biotechnology	21/03/2024	Regular	Chalk and duster
51.	UNIT 4	Vermicomposting: composition and procedure, Verm casting	22/03/2024	Regular	Chalk and duster
52.		Vermicomposting: composition and procedure, Verm casting	01/04/2024	Regular	Chalk and duster
53.		Earthworms as feed/bait for capture/ culture fisheries.	02/04/2024	Regular	Chalk and duster
54.		Role of earthworms in agro-ecosystems	03/04/2024	Regular	Chalk and duster
55.		Role of earthworms in agro-ecosystems	04/04/2024	Regular	Chalk and duster
56.		Role of earthworms in agro-ecosystems	05/04/2024	Regular	Chalk and duster
57.		Land reclamation and sustainable soil fertility	08/04/2024	Regular	Chalk and duster
58.		Land reclamation and sustainable soil fertility	09/04/2024	Regular	Chalk and duster
59.		Earthworms for forest regeneration	11/04/2024	Regular	Chalk and duster
60.		Earthworms for forest regeneration	12/04/2024	Regular	Chalk and duster

61.		Earthworms for management of municipal wastes	15/04/2024	Regular	Chalk and duster
62.		Earthworm for selected biomedical solid wastes	16/04/2024	Regular	Chalk and duster
63.		Earthworm for selected biomedical solid wastes	17/04/2024	Regular	Chalk and duster
64.		Repeat: Morphology and Diversity	18/04/2024	Regular	Chalk and duster
65.		Repeat- Nervous and Digestive system	19/04/2024	Regular	Chalk and duster
66.		Repeat- Cross section, Circulatory, Excretory system	22/04/2024	Regular	Chalk and duster
67.		Repeat- Respiratory system, Reproductive system	23/04/2024	Regular	Chalk and duster
68.		Repeat- Copulation, Fertilization	24/04/2024	Regular	Chalk and duster
69.		Repeat- Exotic species	25/04/2024	Regular	Chalk and duster
70.		Revision	26/04/2024	Regular	Chalk and duster

Reference Books:

1. Edwards CA & Bate JE. 1977. Biology of Earthworms. Chapman & Hall.
2. Edwards CA. 1998. Earthworm Ecology. CRC Press.
3. Sultan Ahmed Ismail, 2005. The Earthworm Book, Second Revised Edition. Other India Press, Goa, India.

Course Outcomes:

CO1: Students will be able to understand the important of earthworms in agro-ecosystems

CO2: It will enhance students' perspective of earthworms for management of municipal/selected biomedical solid wastes

CO3: Students residing in cities can produce Vermicompost in small scale for garden/household plants

CO-PO-PSO Mapping:


	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PSO	PS O	PSO
CO1															
CO2															
CO3															
CO4															

Remarks:


Signature of Staff In-charge






Signature of HOD



DPG DEGREE COLLEGE, GURUGRAM

LESSON- PLAN

PROGRAMME NAME: MASTERS OF SCIENCE (BIOCHEMISTRY)

No. of Lecture Hours / Week	5 / Week	Subject	Genetic Engineering
Total No. of Lecture Hours		Semester	4 th
Course Code	19BC-24-HC1	Session	2023-24

Staff Name & Designation: Mr. Dinesh (Assistant Professor)

Course Objectives:

1. In understanding DNA, RNA and illustrate creative use of modern tools and techniques for manipulation and analysis of genomic sequences.
2. A sound knowledge on methodological repertoire allows students to innovatively apply these in basic and applied fields of biological research.
3. This course provides theoretical bases to properties and applications of versatile DNA modifying enzymes, cloning strategies, vector types, host genotype specificities for selection and screening of recombinants and/or recombinant transformants.
4. Students will also be introduced to prominent nucleic acid labeling techniques.

Sr. No.	Unit No.	Topics to be covered	Date	*Nature of Class	Teaching Aid
1	UNIT-I	Isolation and purification of RNA	09-Jan-24	Regular	Chalk Duster
2		Isolation and purification genomic and plasmid DNA	10-Jan-24	Regular	Chalk Duster



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3		Isolation and purification proteins	11-Jan-24	Regular	Chalk Duster
4		Separation methods and analysis of DNA	12-Jan-24	Regular	Chalk Duster
5		Separation methods and analysis of RNA	15-Jan-24	Regular	Chalk Duster
6		Enzymes used in molecular cloning (restriction enzymes, DNA-Polymerases, ligases, kinases, phosphatases, and nucleases)	16-Jan-24	Regular	PPT
7		Contd...	17-Jan-24	Regular	Chalk Duster
8		Molecular cloning of DNA or RNA fragments in bacterial systems	18-Jan-24	Regular	Chalk Duster
9		Molecular cloning of DNA or RNA fragments in eukaryotic systems	19-Jan-24	Regular	PPT
10		expression of recombinant proteins using bacterial, animal and plant vectors	22-Jan-24	Regular	Chalk Duster
11		Contd...	23-Jan-24	Regular	Chalk Duster
12		Revision	24-Jan-24	Regular	Chalk Duster
13	UNIT-II	Isolation of specific nucleic acid sequences	25-Jan-24	Regular	Chalk Duster
14		generation of genomic and cDNA libraries in plasmid, phage	29-Jan-24	Regular	Chalk Duster
15		generation of genomic and cDNA libraries in cosmid, BAC and YAC vectors	30-Jan-24	Regular	PPT
16		Contd...	31-Jan-24	Regular	Chalk Duster
17		<i>in vitro</i> mutagenesis and detection	01-Feb-24	Regular	Chalk Duster



18		Southern and Northern blotting	02-Feb-24	Regular	Chalk Duster
19		Contd...	12-Feb-24	Regular	Chalk Duster
20		Gene knock out in bacterial organisms	13-Feb-24	Regular	Chalk Duster
21		Gene knock out in eukaryotic organisms	14-Feb-24	Regular	Chalk Duster
22		detection of post-translation modification of proteins	15-Feb-24	Regular	Chalk Duster
23		methods for analysis of gene expression at RNA and protein level	16-Feb-24	Regular	Chalk Duster
24		micro array-based techniques; RFLP, RAPD techniques	19-Feb-24	Regular	PPT
25		micro array-based techniques; AFLP techniques	20-Feb-24	Regular	PPT
26		Revision	21-Feb-24	Regular	Chalk Duster
27		Gene transfer methods in animals	22-Feb-24	Regular	Chalk Duster
28	UNIT-III	gene cloning vectors	23-Feb-24	Regular	PPT
29		techniques for genetic engineering	04-Mar-24	Regular	Chalk Duster
30		microinjection	05-Mar-24	Regular	Chalk Duster
31		embryonic-stem cells transfer	06-Mar-24	Regular	Chalk Duster
32		xenografting	07-Mar-24	Regular	Chalk Duster
33		Contd...	08-Mar-24	Regular	Chalk Duster
34		Transgenesis for animal improvement	11-Mar-24	Regular	Chalk Duster



35		Transgenesis for production of animals as bioreactors for pharmaceutical proteins	12-Mar-24	Regular	Chalk Duster
36		use of transgenic animals	13-Mar-24	Regular	Chalk Duster
37		Applications of recombinant DNA technology in health	14-Mar-24	Regular	Chalk Duster
38		Applications of recombinant DNA technology in gene therapy	18-Mar-24	Regular	Chalk Duster
39		Applications of recombinant DNA technology in recombinant vaccines	19-Mar-24	Regular	Chalk Duster
40		Revision	20-Mar-24	Regular	Chalk Duster
41	UNIT-IV	Cloning of plant cells	21-Mar-24	Regular	PPT
42		manipulation of plant genes	22-Mar-24	Regular	Chalk Duster
43		biology and molecular basis of Agrobacterium mediated plant transformation	28-Mar-24	Regular	Chalk Duster
44		Application of biology and molecular basis of Agrobacterium mediated plant transformation	29-Mar-24	Regular	Chalk Duster
45		direct gene transfer methods	01-Apr-24	Regular	PPT
46		post-transcriptional gene silencing	02-Apr-24	Regular	PPT
47		transcriptional gene silencing	03-Apr-24	Regular	PPT
48		clean gene technology.	04-Apr-24	Regular	Chalk Duster
49		Contd...	05-Apr-24	Regular	Chalk Duster
50		Application of genetic engineering	08-Apr-24	Regular	Chalk Duster
51		Application of Crop improvement	09-Apr-24	Regular	Chalk Duster



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52	Application of herbicide resistance	10-Apr-24	Regular	Chalk Duster
53	Application of insect resistance	11-Apr-24	Regular	Chalk Duster
54	Application of virus resistance	12-Apr-24	Regular	Chalk Duster
55	Application of breeding in plants	22-Apr-24	Regular	Chalk Duster
56	Application of marker assisted selection	23-Apr-24	Regular	Chalk Duster
57	Revision	24-Apr-24	Regular	Chalk Duster
58	Presentation	25-Apr-24	Regular	PPT
59	Presentation	26-Apr-24	Regular	PPT
60	Presentation	29-Apr-24	Regular	PPT
61	Presentation	30-Apr-24	Regular	PPT

Text Books:

1. Biotechnology: Expanding Horizons *By* B. D. Singh, Kalyani Publishers.
2. Textbook of Biotechnology *By* PK Gupta, Rastogi Publications.
3. Biotechnology *By* U. Satyanarayana.

Reference Books:

1. Basic Biotechnology (Paperback) *By* Colin Ratledge and Bjorn Kristiansen. Cambridge University Press.
2. Gene Cloning: An Introduction (Paperback) *By* Terence A. Brown. Nelson Thornes Ltd.
3. Introduction to Biotechnology (Paperback) *By* William J. Thieman and Michael A. Palladino. Benjamin Cummings; US Ed edition.



Course Outcomes: at the end of the course, the student will be able to:

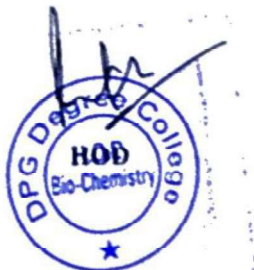
CO1: To illustrate creative use of modern tools and techniques for manipulation and analysis of genomic sequences.


CO2: To expose students to application of recombinant DNA technology in biotechnological research.

CO3: To train students in strategizing research methodologies employing genetic engineering techniques.

Remarks:


In-charge




Principal
D.P.G. Degree
Sector-34, Gurugram



D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: B.SC MATH (Hons)

No. of Lecture Hours/Week	3	Subject	Elementary Inference
Total No. of Lecture Hours	38	Semester	IV
Course Code:	BHM 245	Session	2023-24

Staff Name: Ms. Ruma

Designation: Assistant Professor

Course Objectives:

Course Objectives:

The course is aimed at:

1. Providing students with a formal treatment of probability theory.
2. Equipping students with essential tools for statistical analyses at the graduate level.
3. Fostering understanding through real-world statistical applications.



S. NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	UNIT-I	Basic of statistical inference	10/01/24	Offline	Chalk & Duster
2		Parameter and statistic	11/01/24	Offline	Chalk & Duster
3		Sampling distribution	12/01/24	Offline	Chalk & Duster
4		Standard error of estimate	17/01/24	Offline	Chalk & Duster
5		Standard error of estimate	18/01/24	Offline	Chalk & Duster
6		Point and interval estimation	19/01/24	Offline	Chalk & Duster
7		Unbiasedness	24/01/24	Offline	Chalk & Duster
8		Efficiency	25/01/24	Offline	Chalk & Duster
9		Efficiency	31/01/24	Offline	Chalk & Duster
10		Consistency and Sufficiency	01/02/24	Offline	Chalk & Duster
11		Consistency and Sufficiency	02/02/24	Offline	Chalk & Duster
12	UNIT-II	Method of maximum likelihood estimation.	14/02/24	Offline	Chalk & Duster
13		Null and alternative hypotheses	15/02/24	Offline	Chalk & Duster
14		Simple and composite hypotheses	16/02/24	Offline	Chalk & Duster
15		Critical region	21/02/24	Offline	Chalk & Duster
16		Level of significance	22/02/24	Offline	Chalk & Duster
17		One tailed and two tailed tests	23/02/24	Offline	Chalk & Duster
18		Types of errors, Neyman- Pearson Lemma.	06/03/24	Offline	Chalk & Duster
19	UNIT-III	Testing and interval estimation of a single mean	07/03/24	Offline	Chalk & Duster
20		Single proportion	08/03/24	Offline	Chalk & Duster



21		difference between two means			
22		difference between two proportions	13/03/24	Offline	Chalk & Duster
23		Fisher's Z transformation	20/03/24	Offline	Chalk & Duster
24	UNIT-IV	Definition of Chi-square statistic	22/03/24	Offline	Chalk & Duster
25		Chi-square tests for goodness of fit	28/03/24	Offline	Chalk & Duster
26		Chi-square tests for goodness of independence	29/03/24	Offline	Chalk & Duster
27		Definition of Student's 't'	03/04/24	Offline	Chalk & Duster
28		Snedcor's F-statistics	04/04/24	Offline	Chalk & Duster
29		Testing for the mean and variance of univariate normal distribution	05/04/24	Offline	Chalk & Duster
30		Testing for the mean and variance of univariate normal distribution	10/04/24	Offline	Chalk & Duster
31		Testing of equality of two means and two variances of two univariate normal distributions	11/04/24	Offline	Chalk & Duster
32		Testing of equality of two means and two variances of two univariate normal distributions	12/04/24	Offline	Chalk & Duster
33		Related confidence intervals.	17/04/24	Offline	Chalk & Duster
34		Analysis of variance(ANOVA) for one-way classified data	18/04/24	Offline	Chalk & Duster
35		Analysis of variance(ANOVA) for one-way classified data	19/04/24	Offline	Chalk & Duster
36		Analysis of variance(ANOVA) for one-way classified data	24/04/24	Offline	Chalk & Duster
37		Analysis of variance(ANOVA) two-way classified data.	25/04/24	Offline	Chalk & Duster
38		Analysis of variance(ANOVA) two-way classified data.	26/04/24	Offline	Chalk & Duster

Text Books:

1. A.M. Mood, F.A. Graybill and D.C. Boes, Introduction to the theory of Statistics, McGraw Hill, 1974.
2. A.M. Goon, M.K. Gupta, and B. Das Gupta, Fundamentals of Statistics, Vol-II.

Reference Book

1. R.V. Hogg and A.T. Craig, Introduction to Mathematical Statistics.
2. S.C. Gupta and V.K. Kapoor, Fundamentals of Mathematical Statistics, Sultan, Chand & Sons, 2002

Course Outcomes:

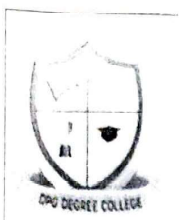
At the end of the course, the student will be able to:

- CO1: Develop problem-solving techniques needed to accurately calculate probabilities.
- CO2: Apply problem-solving techniques to solving real-world events.
- CO3: Apply selected probability distributions to solve problems.
- CO4: Present the analysis of derived statistics to all audiences.

REMARKS:

Signature of Faculty

Signature of HOD



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Bachelor in Business Administration

No. of Lecture Hours/Week	5/Week	Subject	Database Management System
Total No. of Lecture Hours	66	Semester	4th
Course Code:	BBAN-405	Session	2023-24

Staff Name & Designation: Ms. Ankita Yadav

Assistant Professor

Course Objectives:

1. The main objective of this course is to enable students to the fundamental concepts of database analysis and design.
2. To develop conceptual understanding of database management system
3. To get familiar with database storage structures and access techniques.
4. To understand the relational database design principles.
5. Discuss Database management systems, databases and its applications

S.NO.	Unit No.	Topics to be covered	Date	Nature of class	Teaching Aid
1	Unit I	Introduction to Database Management System	9.01.2024	Offline class	White board & Marker
2		Basic terms and definition	10.01.2024	Offline class	PPT Presentation
3		Definition of database	11.01.2024	Offline class	PPT Presentation
4		Characteristics of database	12.01.2024	Offline class	PPT Presentation
5		Data	15.01.2024	Offline class	PPT Presentation
6		Information	16.01.2024	Offline class	PPT Presentation
7		Need of information	17.01.2024	Offline class	PPT Presentation
8		Data versus Information	18.01.2024	Offline class	PPT Presentation
9		Record	19.01.2024	Offline class	PPT Presentation
10		File	22.01.2024	Offline class	PPT Presentation
11		Data dictionary	23.01.2024	Offline class	PPT Presentation
12		Database administrator	24.01.2024	Offline class	White board & Marker
13		Functions of Database administrator	25.01.2024	Offline class	Pen and Notebook
14		responsibilities of Database administrator	29.01.2024	Offline class	White board & Marker
15		File – Oriented System	30.01.2024	Offline class	PPT Presentation
16		Limitations of File – Oriented System	31.01.2024	Offline class	PPT Presentation
17		Database system	1.02.2024	Offline	White board

			class	& Marker
18	File – Oriented System versus Database system	2.02.2024	Offline class	PPT Presentation
19	Database management system	5.02.2024	Offline class	PPT Presentation
20	Components of Database management system	6.02.2024	Offline class	PPT Presentation
21	Components of Database system environment	7.02.2024	Offline class	PPT Presentation
22	Advantages of Database management system	9.02.2024	Offline class	PPT Presentation
23	Disadvantages of Database management system	12.02.2024	Offline class	PPT Presentation
24	Revision of Unit I	13.02.2024	Offline class	PPT Presentation
25	Introduction of Database system architecture	14.02.2024	Offline class	PPT Presentation
26	External level of Database system architecture	15.02.2024	Offline class	White board & Marker
27	Conceptual level of Database system architecture	16.02.2024	Offline class	White board & Marker
28	Internal level of Database system architecture	19.02.2024	Offline class	White board & Marker
29	Advantages of three level architecture	20.02.2024	Offline class	White board & Marker
30	Schemas	21.02.2024	Offline class	PPT Presentation
31.	Sub-schemas	22.02.2024	Offline class	PPT Presentation
32	Instances	23.02.2024	Offline class	PPT Presentation
33	Data independence	4.03.2024	Offline class	PPT Presentation
34	Logical data independence	5.03.2024	Offline class	PPT Presentation

Unit II

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Unit III

Physical data independence	6.03.2024	Offline class	PPT Presentation
Mapping	7.03.2024	Offline class	PPT Presentation
Data models	8.03.2024	Offline class	PPT Presentation
Hierarchical model	11.03.2024	Offline class	PPT Presentation
Network model	12.03.2024	Offline class	PPT Presentation
Relational model	13.03.2024	Offline class	PPT Presentation
Types of database system	14.03.2024	Offline class	PPT Presentation
Revision of unit II	15.03.2024	Offline class	PPT Presentation
Database security	18.03.2024	Offline class	PPT Presentation
Threats of database	19.03.2024	Offline class	PPT Presentation
Security issues of database	20.03.2024	Offline class	White board & Marker
firewalls	21.03.2024	Offline class	White board & Marker
Database recovery	22.03.2024	Offline class	PPT Presentation
Database recovery	28.03.2024	Offline class	PPT Presentation
Techniques of database security	29.03.2024	Offline class	PPT Presentation
Techniques of database security	1.04.2024	Offline class	PPT Presentation
Distributed database	2.04.2024	Offline class	PPT Presentation
Distributed database	3.04.2024	Offline class	PPT Presentation
Revision of unit III	4.04.2024	Offline	White board

			class	& Marker
54		Data warehousing	5.04.2024	Offline class White board & Marker
55		Data mining	8.04.2024	Offline class PPT Presentation
56		Emerging data base technologies	9.04.2024	Offline class White board & Marker
57		Emerging data base technologies	10.04.2024	Offline class PPT Presentation
58		Emerging data base technologies	11.04.2024	Offline class White board & Marker
59		Emerging data base technologies	12.04.2024	Offline class PPT Presentation
60		Internet	22.04.2024	Offline class PPT Presentation
61	Unit IV	Database	23.04.2024	Offline class White board & Marker
62		Digital libraries	24.04.2024	Offline class PPT Presentation
63		Multimedia data base	25.04.2024	Offline class White board & Marker
64		Mobile data base	26.04.2024	Offline class PPT Presentation
65		Special data base	29.04.2024	Offline class White board & Marker
66		Revision of unit IV	30.04.2024	Offline class PPT Presentation



Reference Books :

1. Navathe, Data Base System Concepts 3rd, McGraw Hill.
2. Date, C. J. , An Introduction to Data Base System 7ed. Addison Wesley.
3. Singh, C. S. , Data Base System, New Age Publications, New Delhi.

Course Outcomes: At the end of the course, the student will be able to:

- 1 Understand the basic concepts and the applications of database systems.
- 2 Ability to define a problem at the view level & ability to understand the physical structure of the database to handle data.
- 3 Describes the conceptual schema of a database.

Ankitayadav

Signature of Staff In-charge

[Signature]

Principal
D.P.G. Degree College
Sector-34, Gurugram

[Signature]

Signature of HOD





D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Bachelor in Business Administration

No. of Lecture Hours/Week	3/Week	Subject	System Analysis and Design
Total No. of Lecture Hours	55	Semester	6th
Course Code:	BBAN-602	Session	2023-24

Staff Name & Designation: Ms. Ankita Yadav
Assistant Professor

Course Objectives:

1. The objective of this course is to provide adequate understanding of systems concept, system analysis, and systems design.
2. The goal of system design is to allocate the requirements of a large system to hardware and software components.
3. To gather, analyze, and validate the information.
4. Utilize current Analysis and Design tools to graphically characterize processes.

S.NO.	Unit No.	Topics to be covered	Date	Nature of class	Teaching Aid
1	UNIT I	Introduction to analysis and design	9.01.2024	Offline class	White board & Marker
2		system	10.01.2024	Offline class	PPT Presentation
3		Characteristics of system	11.01.2024	Offline class	PPT Presentation
4		Environment and classification	15.01.2024	Offline class	PPT Presentation
5		SDLC	16.01.2024	Offline class	PPT Presentation
6		SDLC	17.01.2024	Offline class	PPT Presentation
7		Case tools for analyst	18.01.2024	Offline class	PPT Presentation
8		Role of system analyst	22.01.2024	Offline class	PPT Presentation
9		ER models	23.01.2024	Offline class	PPT Presentation
10		Feasibility study	24.01.2024	Offline class	White board & Marker
11		Economical feasibility study	25.01.2024	Offline class	Pen and Notebook
12		Technical feasibility study	29.01.2024	Offline class	White board & Marker
13		Operational feasibility study	30.01.2024	Offline class	PPT Presentation
14		Revision of unit I	31.01.2024	Offline class	PPT Presentation
15		Design of application	1.02.2024	Offline class	White board & Marker
16		DFDs	5.02.2024	Offline class	PPT Presentation
17		Form design	6.02.2024	Offline	PPT

			class	Presentation	
18	UNIT II	Screen design	7.02.2024	Offline class	PPT Presentation
19		Report design	12.02.2024	Offline class	PPT Presentation
20		Structure chart	13.02.2024	Offline class	PPT Presentation
21		Data base definition	14.02.2024	Offline class	PPT Presentation
22		Equipment specification and selection	15.02.2024	Offline class	White board & Marker
23		Equipment specification and selection	19.02.2024	Offline class	White board & Marker
24		Personnel estimates	20.02.2024	Offline class	White board & Marker
26		I-O design	21.02.2024	Offline class	PPT Presentation
27		Revision of unit II	22.02.2024	Offline class	PPT Presentation
28		Implementation	4.03.2024	Offline class	PPT Presentation
30	UNIT III	Data dictionary	5.03.2024	Offline class	PPT Presentation
31		Decision table	6.03.2024	Offline class	PPT Presentation
32		Decision table	7.03.2024	Offline class	PPT Presentation
33		Decision trees	11.03.2024	Offline class	PPT Presentation
34		Decision trees	12.03.2024	Offline class	PPT Presentation
35		Decision trees	13.03.2024	Offline class	PPT Presentation
36		Logical design to physical implementation	14.03.2024	Offline class	PPT Presentation
37		Logical design to physical implementation	18.03.2024	Offline class	PPT Presentation

38	UNIT IV	Logical design to physical implementation	19.03.2024	Offline class	PPT Presentation
39		Logical design to physical implementation	20.03.2024	Offline class	White board & Marker
40		Revision of unit III	21.03.2024	Offline class	White board & Marker
41		Introduction to distributed data processing	28.03.2024	Offline class	PPT Presentation
42		Introduction to real time system	1.04.2024	Offline class	PPT Presentation
43		Evaluating distributing system	2.04.2024	Offline class	PPT Presentation
44		Evaluating distributing system	3.04.2024	Offline class	PPT Presentation
45		Distributed database	4.04.2024	Offline class	White board & Marker
46		Designing Distributed database	8.04.2024	Offline class	PPT Presentation
47		Designing Distributed database	9.04.2024	Offline class	White board & Marker
48		Analysis tools	10.04.2024	Offline class	PPT Presentation
49		Event based real time Analysis tools	11.04.2024	Offline class	White board & Marker
50		Event based real time Analysis tools	22.04.2024	Offline class	PPT Presentation
51		Event based real time Analysis tools	23.04.2024	Offline class	White board & Marker
52		State transition diagram	24.04.2024	Offline class	PPT Presentation
53		State transition diagram	25.04.2024	Offline class	White board & Marker
54		State transition diagram	29.04.2024	Offline class	White board & Marker
55		Revision of unit IV	30.04.2024	Offline class	PPT Presentation

Reference Books :

1. Len. Fertuck, System Analysis and design, McGraw Hill.
2. Powers. Cray. System analysis and design, McGraw Hill.
3. James A. . Analysis and design of information system, McGraw Hill.

Course Outcomes: At the end of the course, the student will be able to:

- 1 Define the requirements and prototypes for new system.
- 2 Evaluate the alternatives and prioritize the requirements.
- 3 Examine the information needs of end-user and enhances the system goal.

Antikayada

Signature of Staff In-charge

M. S. S.
Principal
D.P.G. Degree College
Sector-34, Gurugram

M. S. S.

Signature of HOD

