

DPG Degree College , Gurgaon

LESSON- PLAN

Programme Name: Master of Science (BOTANY)

No. of Lecture Hours/Week	4/Week	Subject name	Plant Taxonomy
Total No. of Lecture Hours		Semester	2
Course Code:	16BOT21C4	Session	2019-20

Staff Name & Designation: Ms Nidhi Jain ,Assistant Professor

Course Objectives:

Course Objective

- 1 To know about origin and evolution of flowering.
- 2 To understand speciation and various species concepts.
- 3 To know the rules and regulation of International Code of Botanical Nomenclature and Phylocode.
- 4 To understand the silent features, merits and demerits of different systems of angiosperm classification.
- 5 To understand the modern techniques and tools of plant taxonomy
- 6 To collect the plant specimens, record field notes, prepare herbaria and will be able to use flora and manuals for plant identification..

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	#Remark
1	Unit I	Origin and evolution of angiosperms	1st day	Regular class	Chalk and ta
2		Origin and evolution of angiosperms	2nd day	Regular class	Chalk and ta
3		Origin and evolution of angiosperms	3rd day	Regular class	Chalk and ta
4		Origin and evolution of angiosperms	4th day	Regular class	Chalk and ta
5		General principles of angiosperm phylogeny	5 th day	Regular class	Chalk and ta
6		General principles of angiosperm phylogeny.	6th day	Regular class	Chalk and ta
7		General principles of angiosperm phylogeny.	7th day	Regular class	Chalk and ta
8		General principles of angiosperm phylogeny	8th day	Regular class	Chalk and ta
9		Evolutionary trends in angiosperms	9th day	Regular class	Chalk and ta
10		Evolutionary trends in angiosperms,	10th day	Regular class	Chalk and ta
11		<u>Evolutionary trends in angiosperm</u>	11th day	Regular class	Chalk and ta



12		Ecads	12th day	Regular class	Chalk and ta
13		Ecotypes	13th day	Regular class	Chalk and ta
14		Speciation; various species concepts	14th day	Regular class	Chalk and ta
15		Adaptive radiation modification	15th day	Regular class	Chalk and ta
16		Concept of taxonomic characters;	16th day	Regular class	Chalk and ta
17	Unit 2	Character weighting	17th day	Regular class	Chalk and ta
18		Taxonomic hierarchy and different taxonomic categories	18th day	Regular class	Chalk and ta
19		Taxonomic hierarchy and different taxonomic categories	19th day	Regular class	Chalk and ta
20		Principles of taxonomy	20th day	Regular class	Chalk and ta
21		Principles of taxonomy	21st day	Regular class	Chalk and ta
22		Characters considered before plant identification	22nd day	Regular class	Chalk and ta
23		Identification keys	23rd day	Regular class	Chalk and ta
24		Identification keys	24th day	Regular class	Chalk and ta
25		Computer aided identification	25th day	Regular class	Chalk and ta
26		floral formula and floral diagram.	26th day	Regular class	Chalk and ta



27	Unit3	Salient features of the International Code of Botanical Nomenclature (ICBN);	27th day	Regular class	Chalk and ta
28		some important rules of nomenclature	28th day	Regular class	Chalk and ta
29		brief idea about phylocode as a new system	29th day	Regular class	Chalk and ta
30		Systems of angiosperm classification	30th day	Regular class	Chalk and ta
31		Systems of angiosperm classification	31st day	Regular class	Chalk and ta
32		Phenetic versus phylogenetic systems	32nd day	Regular class	Chalk and ta
33		Phenetic versus phylogenetic systems	33rd day	Regular class	Chalk and ta
34		Cladistics in taxonomy;	34th day	Regular class	Chalk and ta
35		Relative merits and demerits of major systems of classification.	35th day	Regular class	Chalk and ta
36		Taxonomic evidence: Morphology, anatomy, palynology, embryology, cytology.	36th day	Regular class	Chalk and ta
37		Modern trends in plant taxonomy: Numerical taxonomy.	37th day	Regular class	Chalk and ta
38		Chemotaxonomy	38th day	Regular class	Chalk and ta
39		Molecular taxonomy	39th day	Regular class	Chalk and ta
40		Sessional exam	40th day	Regular class	Chalk and ta

41	Unit 4	Sessional exam	41st day	Regular class	Chalk and ta
42		Herbarium and botanical garden: purpose of modern herbarium	42nd day	Regular class	Chalk and ta
43		Techniques of herbarium preparation,	43rd day	Regular class	Chalk and ta
44		Description of flowering plants in different types of herbaria	44th day	Regular class	Chalk and ta
45		Description of flowering plants in different types of herbaria	45th day	Regular class	Chalk and ta
46		Major indian herbaria	46th day	Regular class	Chalk and ta
47		Major indian botanical gardens	47th day	Regular class	Chalk and ta
48		importance of herbarium and botanical gardens in botanical research	48th day	Regular class	Chalk and ta
49		Relevance of taxonomy to conservation,	49th day	Regular class	Chalk and ta
50		Sustainable utilization of bioresources and ecosystem research	50th day	Regular class	Chalk and ta
51		Revision	51st day	Regular class	Chalk and ta
52		Revision	52nd day	Regular class	Chalk and ta
53		Revision of last 5 years question ppr	53rd day	Regular class	Chalk and ta
54		Revision of last 5 years question ppr	54th day	Regular class	Chalk and ta
55		Revision of last 5 years question ppr	55th day	Regular class	Chalk and ta



56	Revision of last 5 years question paper	56th day	Regular class	Chalk and talk
57	Revision of last 5 years question paper	57th day	Regular class	Chalk and talk
58	Revision of last 5 years question paper	58th day	Regular class	Chalk and talk
59	Revision of last 5 years question paper	59th day	Regular class	Chalk and talk
60	Revision	60th day	Regular class	Chalk and talk

Sharma, O.P. 2009. Plant Taxonomy. Tata McGraw Hill Education Pvt. Ltd.
New

Delhi.

Verma, B.K. 2011. Introduction to Taxonomy of Angiosperms. PHI Learning
Pvt.

Ltd. New Delhi Text Books:

Reference Book

Davis, P.H. and Heywood, V.M. 1973. Principles of Angiosperm Taxonomy.
Robert E. Kereiger Publ. New York.

Grant, W.F. 1984. Plant Biosystematics. Academic Press, London.

Heywood, V.H. and Moore, D.M. 1984. Current Concepts in Plant Taxonomy.
Academic Press. London.

Course Outcomes:

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

CO 1	Have sound knowledge about origin and evolution of flowering.
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CO 2	Thorough understanding of speciation and various species concept,
CO 3	Conversant with the rules and regulation of International Code of Botanical Nomenclature and Phylocode.
CO 4	The silent features, merits and demerits of different systems of angiosperm classification.
Co5	Have basic understanding of modern techniques and tools of plant taxonomy.
Co6	Collect the plant specimens, record field notes, prepare herbaria and will be able to use flora and manuals for plant identification.

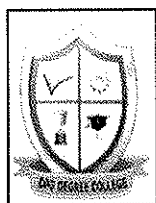
Remarks

Ms Nidhi

Signature of Staff In-charge

Dr Amita singh

Sign of HOD



LESSON- PLAN

Programme Name: Master of Science (Botany)

No. of Lecture Hours/Week	2/Week	Subject name	Lab course 1
Total No. of Lecture Hours	29.29 H	Semester	2
Course Code:	: Lab Course-1 (BOT22CL1)	Session	2022-23

Staff Name & Designation: Ms Nidhi Jain ,Assistant Professor

Course Objectives:

Course Objective

1 To know about quantitative analysis of the important biomolecules such as proteins, sugars and lipids.

- 2 To know Perform experiments on enzyme kinetics.
- 3 To Purify proteins/enzymes from plants sources using the techniques of precipitation and gel filtration.
- 4 To Determine the content of photosynthetic pigments and study their absorption spectra.
- 5 To Demonstrate Hill activity
- 6 To Describe a specimen from the locally available angiospermic families

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	#Remarks
1		Introduction of the syllabus, lab instrument used to study in taxonomy	14/2	Regular class	Lab work
2		. Description of a specimen from representative, locally available families such as Apiaceae,	21/2	Regular class	Lab work
3		Description of family asclepiadaceae, asteraceae, apocynaceae	28/2	Regular class	Lab work
4		Description of family Bracicaceae, chnropodiaceae, convolvulaceae	14/3	Regular class	Lab work
5		Description of family cucurbtaceae, euphorbiaceae	28/3	Regular class	Lab work
6		Description of family fabaceae lamiaceae liliaceae	4/4	Regular class	Lab work
7		Description of family malyaceae, myrtaceae, poaceae	11/4/23	Regular class	Lab work
8		Description of family ranunculaceae, rosaceae	18/4/23	Regular class	Lab work



	rubiceae,			
9	Description of family solanaceae verbinaceae	25/4/23	Regular class	Lab work
10	Location of key characters and use of keys at family level.	2/5/23	Regular class	Lab work
11	Location of key characters and use of keys at family level.	9/5/23	Regular class	Lab work
12	4 Preparation of herbarium of locally available wild plants	16/5/23	Regular class	Lab work
13	Training in using floras and herbarium for identification of specimens described in class	23/5/23	Regular class	Lab work

##Nature of class may be: regular class/tutorial class/extra class/ etc.

#Remarks column mention : chalk & talk /ICT based/ Flip class/PPT etc.

Text Books:

Text Books Recommended

- Davis, P.H. and Heywood, V.M. 1973. **Principles of Angiosperm Taxonomy**. Robert E. Kereiger Publ. New York.
- Grant, W.F. 1984. **Plant Biosystematics**. Academic Press, London.
- Heywood, V.H. and Moore, D.M. 1984. **Current Concepts in Plant Taxonomy**. Academic Press. London

Reference Books

- Naik, V.N. 2006. **Taxonomy of Angiosperms**. Tata McGraw Hill Education Pvt. Ltd. New Delhi.




• Sharma, O.P. 2009. **Plant Taxonomy**. Tata McGraw Hill Education Pvt. Ltd

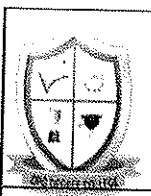
Course Outcomes:

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

CO 1	Describe a specimen from the locally available angiospermic families
CO 2	Make harbarium
CO 3	Identify the unknown plant with the help of keys
CO 4	Make field notes for harbarium


Signature of Staff In-charge


Signature of HOD



DPG Degree College , Gurugram

LESSON- PLAN

Programme Name: Bachelor of Science (Medical)

No. of Lecture Hours/Week	3/Week	Subject name	Plant Embryology
Total No. of Lecture Hours	30 hours	Semester	4
Course Code:	BOT 4.2	Session	2022-23

Staff Name & Designation: Ms Nidhi Jain ,Assistant Professor

Course Objectives:

- 1 To develop broad understanding of different aspects of plant reproduction i.e microsporogenesis
- 2 To know the microgametogenesis, pollen pistil interaction and pollination.
- 3 To know about female gamete of plant i.e megasporogenesis, fertilization.
- 4 .To introduce the embryogenesis in monocot and dicot plants.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	#Remarks
1	Unit I	Flower-a modified shoot	30 /1/ 2023	Regular class	Chalk and talk
2		Flower-a modified shoot	31/1/23	Regular class	Chalk and talk
3		Microsporangium	2/2/23	Regular class	Chalk and talk
4		Microsporangium	6/2/23	Regular class	Chalk and talk
5		its wall and dehiscence mechanism	7/2/23	Regular class	Chalk and talk
6		its wall and dehiscence mechanism	9/2/23	Regular class	Chalk and talk
7		Microsporogenesis	13/2/23	Regular class	Chalk and talk
8		pollen grains and its structure (pollen wall).	14/2/23	Regular class	Chalk and talk
9		pollen grains and its structure (pollen wall).	16/2/23	Regular class	Chalk and talk
10	Unit 2	Pollen germination (microgametogenesis	20/2/23	Regular class	Chalk and talk
11		Male gametophyte	21/2/23	Regular class	Chalk and talk



12	Unit 3	Pollen-pistil- interection	23/2/23	Regular class	Chalk and talk
13		Pollen-pistil -interection	27/2/23	Regular class	Chalk and talk
14		self incompatibility	28/2/23	Regular class	Chalk and talk
15		Pollination: types and agencies	2/3/23	Regular class	Chalk and talk
16		Pollination: types and agencie	6/3/23	Regular class	Chalk and talk
17		Pollination: types and agencies	7/3/23	Regular class	Chalk and talk
18		Structure of Megasporangium (ovule),	13/3/23	Regular class	Chalk and talk
19		its curvatures; Megasporogenesis	14/3/23	Regular class	Chalk and talk
20		Megagametogenesis, Female gametophyte (mono, bi and tetrasporic),	16/3/23	Regular class	Chalk and talk
21		Megagametogenesis, Female gametophyte (mono, bi and tetrasporic),	20/3/23	Regular class	Chalk and talk
22	Unit 4	Double fertilization, Endosperm types and its biological importance.	21/3/23	Regular class	Chalk and talk
23		Double fertilization, Endosperm types and its biological importance.	23/3/23	Regular class	Chalk and talk
24		Embryogenesis in Dicot and Monocot;	27/3/23	Regular class	Chalk and talk
25		Embryogenesis in Dicot and Monocot;		Regular class	Chalk and talk

25		Polyembryony	28/3/23	Regular class	Chalk and talk
26		Structure of Dicot and Monocot seed,	30/3/23	Regular class	Chalk and talk
27		Fruit types; Dispersal mechanisms in fruits and seeds	3/4/23	Regular class	Chalk and talk
28		Fruit types; Dispersal mechanisms in fruits and seeds	4/4/23	Regular class	Chalk and talk
29		Revision	6/4/23	Regular class	Chalk and talk
				Regular class	Chalk and talk

Text Books:

1. Jyoti publication by Archana Jain
2. Modern publication by B.B, Arora

Reference Books

Botany for the degree students by Dr.B.P,Pandey S/Chand publication.

Course Outcomes:

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

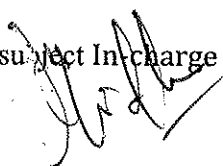
CO 1	. develop broad understanding of different aspects of plant reproduction i.e microsporogenesis
CO 2	know the microgametogenesis, pollen pistil interectionand pollination..



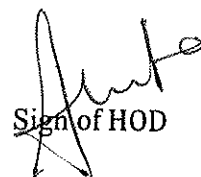
CO 3	know about female gamete of plant i.e megasporogenesis, fertilization.
CO 4	introduce the embryogenesis in monocot and dicot plants.

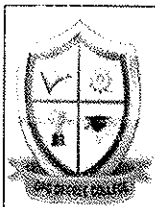
REMARKS

Signature of subject In-charge



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	Macro Economics
Total No. of Lecture Hours	60	Semester	2nd
Course Code:	BBAN-202	Session	2022-23


Staff Name & Designation: MS. Vidushi Malik

Assistant Professor

Course Objectives:

Course Objectives:

1. To equip the students with necessary theoretical knowledge and practical application on stock markets.
2. To create a powerful knowledge bank on various tools and techniques required in understanding the functioning of capital markets.
3. To develop job oriented skills in a student in related to Market functionality as per India and overseas market .
4. Students can become good Investment professional (Stock Broker, Equity Dealer, Stock Market Analyst, Relationship Manager, and Terminal Operator etc).
5. Students can take his own trading decisions and help clients achieve their financial goals.

S.NO.	Unit No.	Topics to be covered	*Nature of class	Teaching Aid
1	Unit I	Nature and scope of macroeconomics	Offline class	White board & Marker
2		Circular flow of income	Offline class	PPT Presentation
3		Two sector and three Sector	Offline class	PPT Presentation
4		Income and their interrelationship	Offline class	PPT Presentation
5		Stock and flow variables	Offline class	PPT Presentation
6		Aggregate demand	Offline class	PPT Presentation
7		Aggregate demand curve and Explanation	Offline class	PPT Presentation
8		Trade cycle and flow chart	Offline class	PPT Presentation
9		Causes of booms and recessions	Offline class	PPT Presentation
10		Remedial measures of Recession and depression	Offline class	PPT Presentation
11		Supply and macroeconomic equilibrium	Offline class	PPT Presentation
12		Meaning of National Income	Offline class	PPT Presentation
13		Methods of Measurement of National Income	Offline class	PPT Presentation
14		Product Method of National Income	Offline class	PPT Presentation
15		Income method of National Income	Offline class	PPT Presentation
16			Offline class	PPT Presentation
17		Expenditure Method of National Income 	Offline class	PPT Presentation

18	Unit II	Consumer Behaviour	Offline class	PPT Presentation
19		Cyclical and secular consumption function	Offline class	PPT Presentation
20		Consumptions function in relation of income	Offline class	PPT Presentation
21		Consumption function of Income	Offline class	PPT Presentation
22		Determinants of consumption functions	Offline class	PPT Presentation
23		APC ,APS and MPC ,MPS Curve in details	Offline class	PPT Presentation
24		Theory of consumption Absolute theory of consumption	Offline class	PPT Presentation
25		Relative theory and Permanent income hypothesis	Offline class	PPT Presentation
26		Importance of simple Keynesian model.	Offline class	PPT Presentation
27		Meaning of Multiplier ,features and Limitation	Offline class	PPT Presentation
28		Types of Multiplier (Backward and forward)	Offline class	PPT Presentation
29		Importance of Multiplier	Offline class	PPT Presentation
30		Relationship of Multiplier with MPC Curve	Offline class	PPT Presentation
31	UNIT-III	Meaning of Fiscal Policy and Nature	Offline class	PPT Presentation
32		Scope and Objective of fiscal Policy	Offline class	PPT Presentation
33		Fiscal Deficit and its implications	Offline class	PPT Presentation
34		Fiscal policy in relation to growth	Offline class	PPT Presentation
35		Tools of Fiscal Policy	Offline class	PPT Presentation
36		Public Debt	Offline class	PPT Presentation
37		Classification of Public Debt	Offline class	PPT

			Presentation
38		Redemption of Public Debt	Offline class PPT Presentation
39		Business Taxes and Type	Offline class PPT Presentation
40		Canons of Business Taxes (Principles)	Offline class PPT Presentation
41		Incidences of Business Taxes and factors affecting incidence of Taxation.	Offline class PPT Presentation
42		Shifting Taxation graphical : Demand , supply , Market , Cost of production	Offline class PPT Presentation
43		Problems occurs while shifting taxation	Offline class PPT Presentation
44		Theories of Incidence of Taxation	Offline class PPT Presentation
45		Test	Offline class PPT Presentation
46	UNIT-IV	Money supply measures	Offline class PPT Presentation
47		Credit creation process and	Offline class PPT Presentation
48		Money multiplier	Offline class PPT Presentation
49		Instruments of monetary policy	Offline class PPT Presentation
50		Promotional and regulatory role of central bank	Offline class PPT Presentation
51		Monetary policy – types,	Offline class PPT Presentation
52		Monitory rates : CRR , SLR ,Repo Rate , Reverse Rate , Bank Rate	Offline class PPT Presentation
53		Causes & effects of MP	Offline class PPT Presentation
54		Control measures.	Offline class PPT Presentation
55		Effect of Control Measures	Offline class PPT Presentation
56		Inflation : types : Remedial action to control Inflation	Offline class PPT Presentation

57	Important terms : stagflation and causes , Philip curve	Offline class	PPT Presentation
58	Theories of Inflation	Offline class	PPT Presentation
59	Measures to control Inflation	Offline class	Notebook & pen
60	Revision	Offline class	PPT Presentation

Text Books:

1. TR Jain ,OP Khanna VK Publications
2. Agarwal, ((2010)) Macroeconomics Theory and Policy, 1st edition, Pearson Education.

Reference Books

1. Dwivedi, D. N., (2005) Macro Economics, McGraw Hill Education.
2. 2. Dr. Kumar Raj, Gupta Kuldeep, (2009) Business Economics-II (Macro), UDH publishers

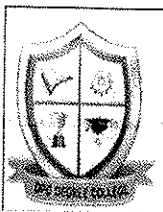
Course Outcomes: At the end of the course, the student will be able to:

1. Trading/investment decisions independently. When to enter and exit markets using various technical tools and thus enhancing the risk management technique.
2. Practical use of balance sheets and draws out projections by using fundamental tools of ratios and valuation.
3. Qualities of a good Investment professional functionality on mutual funds ,SIPs

REMARKS:

Signature of Staff In-charge

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	Cost Accounting
Total No. of Lecture Hours	60	Semester	4TH
Course Code:	BBAN-301	Session	2022-23

Staff Name & Designation: Dr. Namita Agrawal

Assistant Professor

Course Objectives:

Course Objectives:

- To familiarize students with the basic concepts of cost and various methods and techniques of costing.
- Aimed to familiarize the concept of cost accounting.
- Helps to gather knowledge on preparation of cost sheet in its practical point of view.
- To facilitate the idea and meaning of material control with pricing methods.
- Develop the knowledge about remuneration and incentives.
- To introduce the concept of overhead cost.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Introduction of syllabus	1 class	Offline class	White board & Marker
2		Objective,	2 class	Offline class	PPT Presentation
3		elements of cost,	3 class	Offline class	PPT Presentation
4		cost sheet, importance of cost accounting,	4 class	Offline class	PPT Presentation
5		types of costing,	5 class	Offline class	PPT Presentation
6		installation of costing system,	6 class	Offline class	PPT Presentation
7		difference between cost accounting and financial accounting.	7 class	Offline class	PPT Presentation
8		Material Control: - Meaning and objectives of material control	8 class	Offline class	PPT Presentation
9		material purchase procedure, fixation of inventory levels	9 class	Offline class	PPT Presentation
10		- Reorder level, EOQ,	10 class	Offline class	PPT Presentation
11		Minimum level, Maximum level, Danger level	11 class	Offline class	PPT Presentation
12		Methods of Valuing Material Issues	12 class	Offline class	PPT Presentation
13		Revision	13 class	Offline class	PPT Presentation
14		Class test	14 class	Offline class	PPT Presentation
15		Introduction to cost control	15 class	Offline class	PPT Presentation

16		Labor Cost Control: - its importance, methods of	16 class	Offline class	PPT Presentation
17		Time Keeping and Time Booking;	17 class	Offline class	PPT Presentation
18	Unit II	Treatment and Control of Labor Turnover,	18 class	Offline class	PPT Presentation
19		Idle Time, Overtime,	19 class	Offline class	PPT Presentation
20		Systems of Wage Payment – Time Wage System,	20 class	Offline class	PPT Presentation
21		Piece Wage System and Balance or Debt Method;	21 class	Offline class	PPT Presentation
22		Overhead – classification,	22 class	Offline class	PPT Presentation
23		Overhead – classification,	23 class	Offline class	PPT Presentation
24		allocation and apportionment of overhead including machine hour rate.	24 class	Offline class	PPT Presentation
25		Methods of Costing – Job, Batch and Contract Costing,	25 class	Offline class	PPT Presentation
26		Process Costing Fundamental,	26 class	Offline class	PPT Presentation
27		Process Losses & Gains	27 class	Offline class	PPT Presentation
28		Revision	28 class	Offline class	PPT Presentation
29		Doubt Clearing session	29 class	Offline class	PPT Presentation
30		Class test	30 class	Offline class	PPT Presentation
31		Introduction	31 class	Offline class	PPT Presentation
32		Management Accounting: -	32 class	class Offline class	PPT Presentation
33		Meaning, nature, scope,	33 class	Offline class	PPT Presentation

34	UNIT-III	objective and functions;	34 class	Offline class	PPT Presentation
35		marginal costing and profit planning,	35 class	Offline class	PPT Presentation
36		practical application of marginal costing techniques.	36 class	Offline class	PPT Presentation
37		Responsibility Accounting: - types of responsibility centers,	37 class	Offline class	PPT Presentation
38		performance evaluation criteria,	38 class	Offline class	PPT Presentation
39		responsibility reporting; budgeting –	39 class	Offline class	PPT Presentation
40		role of budgets and budgeting in organizations,	40 class	Offline class	PPT Presentation
41		role of budgets and budgeting in organizations,	41 class	Offline class	PPT Presentation
42		budgeting process,	42 class	Offline class	PPT Presentation
43		operational and financial budgeting.	43 class	Offline class	PPT Presentation
44		Revision	44 class	Offline class	PPT Presentation
45		Doubt Clearing	45 class	Offline class	PPT Presentation
46	UNIT-IV	Introduction	46 class	Offline class	PPT Presentation
47		Nature and types of Financial Statements;	47 class	Offline class	PPT Presentation
48		techniques of financial statement analysis,	48 class	Offline class	PPT Presentation
49		ratio analysis,	49 class	Offline class	PPT Presentation
50		fund flow and cash flow analysis,	50 class	Offline class	PPT Presentation
51		techniques in performance measurement.	51 class	Offline class	PPT Presentation

52	Management accounting information	52 class	Offline class	PPT Presentation
53	Management accounting information	53 class	Offline class	PPT Presentation
54	activity and process decisions;	54 class	Offline class	PPT Presentation
55	activity and process decisions;	55 class	Offline class	PPT Presentation
56	basic capital budgeting techniques.	56 class	Offline class	PPT Presentation
57	basic capital budgeting techniques.	57 class	Offline class	PPT Presentation
58	Revision	58 class	Offline class	PPT Presentation
59	Class test	59 class	Offline class	Notebook & pen
60	Revision & Doubt class for whole syllabus Sessional 2	60 class	Offline class	PPT Presentation

SUGGESTED READINGS:

1. Jain & Narang, Advance Cost Accounting, Kalyani Publishers, New Delhi
2. Mittal, S.N., Cost Accounting
3. Bhar, B.K., Cost Accounting
4. Prasad, N.K., Principles and Practice of Cost Accounting

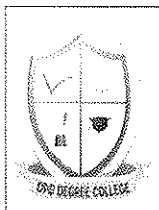
Course Outcomes: At the end of the course, the student will be able to:

1. The main Objective of Cost Accounting is to offer a career that offers opportunities to Commerce students; however, good analytical skills help a lot in this field.
2. Students will be able to find opportunities in: Cost Accounting Job Roles: - (Jr. Accountant)
3. Management of public & private sector enterprises- Financial institutions, All India Cost Accounts Service (ICAS), Teaching, Consultancy
4. Independent practice Students will be able to Collect, organize internal and financial information for evaluating, critical analyses and regulating past and present financial performance for forecasting.

REMARKS:

Signature of Staff In-charge

Signature of HOD



LESSON- PLAN

COURSE NAME: Bachelor in Business Administration

No. of Lecture Hours/Week	5/Week	Subject	Human Rights & Values
Total No. of Lecture Hours	60	Semester	4TH
Course Code:	BBAN-406	Session	2022-23

Staff Name & Designation: MS. Pooja Garg

Assistant Professor

Course Objectives:

Course Objectives:

1. To strengthen respect for human rights and fundamental freedoms,
2. To value human dignity and develop individual self-respect and respect for others,
3. To develop attitudes and behaviours that will lead to respect for the rights of others,
4. To promote respect, understanding and appreciation of diversity,
5. To empower people towards more active citizenship,
6. To promote democracy, development, Social Justice, Communal harmony, Solidarity and Friendship among people and nations,
7. To further the activities of international understanding, tolerance and non-Violence
8. To understand the moral values, Ethics and Human Values.
9. To inspire Moral and Social Values and Loyalty.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Introduction of syllabus	19.01.2023	Offline class	White board & Marker
2		Human rights and its Evolutions	20.01.2023	Offline class	PPT Presentation
3		Human Rights movements in India	23.01.2023	Offline class	PPT Presentation
4		Types of Human Rights	24.01.2023	Offline class	PPT Presentation
5		Constitutional provisions to Right to Life, Liberty and Dignity	25.01.2023	Offline class	White board & Marker
6		Constitutional provisions to Right to Life, Liberty and Dignity (Students Presentation)	27.01.2023	Offline class	PPT Presentation
7		Constitutional provisions to Right to Equality	30.01.2023	Offline class	White board & Marker
8		Constitutional provisions to Right to Equality (Students presentation)	31.01.2023	Offline class	PPT Presentation
9		Constitutional provisions to Right against Exploitation	1.02.2023	Offline class	White board & Marker
10		Constitutional provisions to Right against Exploitation (Students Presentation)	2.02.2023	Offline class	PPT Presentation
11		Constitutional provisions to Cultural and Educational Rights	3.02.2023	Offline class	White board & Marker
12		Constitutional provisions to Cultural and Educational Rights (Students Presentation)	6.02.2023	Offline class	PPT Presentation
13		Constitutional provisions to Economical, Political and Social Rights	13.02.2023	Offline class	White board & Marker
14		Constitutional provisions to Economical, Political and Social Rights (Students Presentation)	14.02.2023	Offline class	PPT Presentation

15		Revision and doubt class 1	15.02.2023	Offline class	White board & Marker
16		Revision and doubt class 2	16.02.2023	Offline class	White board & Marker
17	Unit II	Introduction of Unit 2	17.02.2023	Offline class	White board & Marker
18		Deprivation of Human rights and its various core issues	20.02.2023	Offline class	PPT Presentation
19		Overpopulation and poverty	21.02.2023	Offline class	PPT Presentation
20		Illiteracy and unsustainable development	22.02.2023	Offline class	PPT Presentation
21		Disadvantaged groups: Women	23.02.2023	Offline class	PPT Presentation
22		Disadvantaged groups: Children	24.02.2023	Offline class	PPT Presentation
23		Disadvantaged groups: SC and ST	27.02.2023	Offline class	PPT Presentation
24		Disadvantage groups: Physically and Mentally Handicapped	28.02.2023	Offline class	PPT Presentation
25		Disadvantage groups: Homeless and slum dwellers	1.03.2023	Offline class	PPT Presentation
26		Disadvantage groups: Internally Displaced person	2.03.2023	Offline class	PPT Presentation
27		Disadvantage groups: Refugees	3.03.2023	Offline class	PPT Presentation
28		Revision class & doubt class 1	6.03.2023	Offline class	White board & Marker
29		Revision class & doubt class 2	13.03.2023	Offline class	White board & Marker
30		Paper discussion Sessionals	20.03.2023	Offline class	White board & Marker
31		Introduction of Unit 3	21.03.2023	Offline class	White board & Marker
32		Violation of Human rights and forms of Violation	22.03.2023	Offline class	PPT Presentation
33		Violation of Human rights by State	23.03.2023	Offline class	PPT Presentation

34	UNIT-III	Violation of human rights by Individuals and groups	24.03.2023	Offline class	PPT Presentation
35		Nuclear weapons and Human Rights	25.03.2023	Offline class	PPT Presentation
36		Terrorism and Human Rights	27.03.2023	Offline class	PPT Presentation
37		Government Redressal system:- Judiciary	28.03.2023	Offline class	PPT Presentation
38		National Human Rights Commission	29.03.2023	Offline class	PPT Presentation
39		State Human Rights Commission and others.	30.03.2023	Offline class	PPT Presentation
40		Media Advocacy and its role	31.03.2023	Offline class	PPT Presentation
41		Creation of Human rights Literacy and Awareness	3.04.2023	Offline class	PPT Presentation
42		Revision and Doubt class 1	4.04.2023	Offline class	White board & Marker
43		Revision and Doubt class 2	5.04.2023	Offline class	White board & Marker
44		Class test	6.04.2023	Offline class	Note book and Pen
45		Introduction to Unit 3	7.04.2023	Offline class	White board & Marker
46		Concept of Human Value and its definition	10.04.2023	Offline class	PPT Presentation
47		Concept of Value Education and its definition	11.04.2023	Offline class	PPT Presentation
48		Components of Value Education	12.04.2023	Offline class	PPT Presentation
49	UNIT-IV	Character Formation	13.04.2023	Offline class	PPT Presentation
50		Positive traits for Character Development	17.04.2023	Offline class	PPT Presentation
51		National Integration meaning and its features	18.04.2023	Offline class	PPT Presentation

52	Obstacles in National Integration	19.04.2023	Offline class	PPT Presentation
53	Values education for national Integration and measures for its promotion	20.04.2023	Offline class	PPT Presentation
54	International Understanding meaning and its need	21.04.2023	Offline class	PPT Presentation
55	Nationalism V/s Internationalism	24.04.2023	Offline class	PPT Presentation
56	Role of Education in developing International Understanding.	25.04.2023	Offline class	PPT Presentation
57	Revision and Doubt class 1	26.04.2023	Offline class	PPT Presentation
58	Class test	27.04.2023	Offline class	Note book and Pen
59	PYQ discussion 1	28.04.2023	Offline class	White board & Marker
60	PYQ discussion 2	1.05.2023-12.5.2023	Offline class	White board & Marker

Text Books:

1. Dr. Anjali Bhankar, Human Rights and Values, A Mahavir Publication
2. M Girija, K. Pushpawali, P. Subasree, Human Rights An Overview, S. Chand Publication

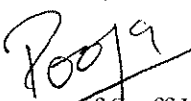
Reference Books

1. NHRC, Know your right Series (2005)
2. Ruhela S. P – “Human Value and Education”, New Delhi. Sterling Publishers.

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

1. Demonstrate a good understanding of the provision under the constitution of India dealing with human rights.
2. Display a good understanding of the nature and the scope of special legislations dealing with protection of human rights of marginalized and vulnerable section.
3. Demonstrate a good understanding of the practical application of human rights law to specific human rights problem in India.
4. Understand and analyses the essentials of human values and skills. self-exploration, happiness and prosperity.

REMARKS


Signature of Staff In-charge


Signature of HOD



DPG' Degree College , Gurgaon

LESSON- PLAN

Programme Name: Master of Science

No. of Lecture Hours/Week	5/week	ExamHours	3
Total No. of Lecture Hours	60h	Exam Marks	80
Course Code:	CY(H)-401(a)	Session	2022-23

Staff Name & Designation: Dr.Ginni Rani, Assistant Professor

Course Objectives:


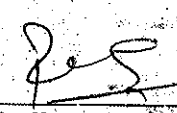
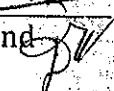
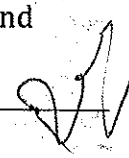
- 1 To understand about the basic concept and mechanism of various organometallic compounds.
- 2 To familiarize student with the importance of organometallic as catalysts in inorganic chemistry.
- 3 To understand the function and application of fluxional organometallic compounds.
- 4 To exhibit memory of previously learned material by recalling terms and basic concepts.

	1	compounds by bond types viz.covalent bond ,ionic bond.	20.1.23	class	duster
2		Introduction and classification of organometallic compounds by bond types viz. electron deficient and cluster compounds .	23-25.1.23	Regular class	Chalk and duster
3		Alkyls and Aryls of transition metals:types of these compounds	27.1.23	Regular class	online
4		Routes of synthesis of alkyl and aryls transition metals	30.1.23	Regular class	Chalk and duster
5		Routes of synthesis of alkyl and aryls transition metals	31.1.23	Regular class	Chalk and duster
6		Stability and decomposition pathways.	1.2.23	Regular class	Chalk and duster
7		Organocopper in organic synthesis.	2-3.2.23	Regular class	Chalk and duster
8		Stability and decomposition pathways of aryl compounds.	6.2.23	Regular class	Chalk and duster
9		Transition metal of π-complexes	7.2.23	Regular class	Chalk and duster
10		Transition metal of metal π -complexes of alkene-its	13.2.23	Regular	Chalk and

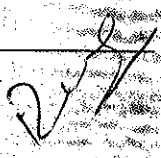
		preparation ,properties.		class	duster
11	UNIT 2	Transition metal of metal π -complexes of alkene-its nature of bonding and structural features.	14.2.23	Regular class	ppt
12		Transition metal of metal π -complexes of alkynes-its preparation ,properties.	15.2.23	Regular class	ppt
13		Transition metal of metal π -complexes of alkynes-its nature of bonding and structural features.	16.2.23	Regular class	Chalk and duster
14		Transition metal of metal π -complexes of allyl-its preparation ,properties.	17.2.23	Regular class	Chalk and duster
15		Transition metal of metal π -complexes of allyl-its nature of bonding and structural features.	20.2.23	Regular class	Chalk and duster
16		Transition metal of metal π -complexes of alkene-its preparation ,properties.	21.2.23	Regular class	Chalk and duster
17		Transition metal of metal π -complexes of dienyl-its preparation ,properties.	23.2.23	Regular class	Chalk and duster
18		Transition metal of metal π -complexes of dienyl-its nature of bonding and structural features..	24.2.23	Regular class	Chalk and duster

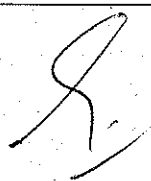


19	UNIT 3	Important reaction related to nucleophilic and electrophilic attack on ligands and to alkene organic compounds.	27.2.23	Regular class	Chalk and duster
20		Important reaction related to nucleophilic and electrophilic attack on ligands and to alkynes organic compounds.	28.2.23	Regular class	Chalk and duster
21		Important reaction related to nucleophilic and electrophilic attack on ligands and to allyl organic compounds.	1.3.23	Regular class	Chalk and duster
22		Important reaction related to nucleophilic and electrophilic attack on ligands and to dienyl organic compounds.	2.3.23	Regular class	Chalk and duster
23		Important reaction related to nucleophilic and electrophilic attack on ligands and metallocene organic compounds.	3.3.23	Regular class	Chalk and duster
24		Recapitulation and doubt clearance session	3.3.23	Regular class	Chalk and duster
25		Recapitulation and doubt clearance session	3.3.23	Regular class	Chalk and duster
26		Discussed previous year question of unit 2	6.3.23	Regular class	Chalk and duster

25	Recapitulation and doubt clearance session	3.3.23	Regular class	Chalk and duster
26	Discussed previous year question of unit 2	6.3.23	Regular class	Chalk and duster
27	Conducted class test	7.3.23	Regular class	ppt
28	Discussed class test	13-15.3.23	Regular class	ppt
29	Assignment ✓	16-17.3.23	Regular class	
30	Sessional exam	20-24.3.23	Regular class	Chalk and duster
31	Compounds of transition metal-carbon multiple bonds: transition metal carbene complexes.	27-29.3.23	Regular class	Chalk and duster
32	Fischer types of carbene complexes. synthesis, reactions and structures and bonding.	30-31.3.23	Regular class	Chalk and duster 
33	Schrock types of carbenecomplexes. Synthesis, reactions and structures and bonding.	3.4.23	Regular class	Chalk and duster 
34	Transition metal-carbyne complexes-synthesis, reaction.	4.4.23	Regular class	Chalk and duster 



45	Wilkinson catalyst	25.4.23	Regular class	
46	Oxidation of olefins wacker's process	26.4.23	Regular class	
47	Hydroformylation of olefins	27.4.23	Regular class	
8	Sessional exam	1.5.23	Regular class	Chalk and duster
49	Sessional exam	2.5.23	Regular class	Chalk and duster
50	Sessional exam	3.5.23	Regular class	Chalk and duster
51	Sessional exam	4.5.23	Regular class	Chalk and duster
52	Sessional exam	5.5.23	Regular class	Chalk and duster
53	Rotation of ligands on metals ,ligand scrambling on metal.	8.5.23	Regular class	Chalk and duster
54	Recapitulation and doubt clearance session	9.5.23	Regular class	



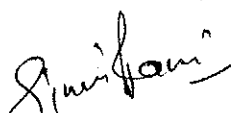
49	Wilkinson catalyst	2.5.23	Regular class	Chalk and duster
50	Oxidation of olefins wacker's process	3.5.23	Regular class	Chalk and duster
51	Hydroformylation of olefins	4.5.23	Regular class	Chalk and duster
52	Oxo process	5.5.23	Regular class	Chalk and duster
53	Rotation of ligands on metals ,ligand scrambling on metal.	8.5.23	Regular class	Chalk and duster
54	Recapitulation and doubt clearance session	9.5.23	Regular class	
55	Recapitulation and doubt clearance session	10.5.23	Regular class	
56	Conducted class test	11.5.23	Regular class	Flip class
57	Discussed class test	12.5.23	Regular class	Flip class




CO 3	3Able to explain the concept of many oxygen carrier compounds.
CO 4	4Able to define and recall facts and terms of bioinorganic compounds.

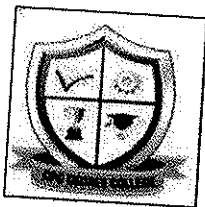
CO-PO-PSO Mapping :

	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PS O	PS O	PS O
CO 1															
CO 2															
CO 3															
CO 4															


Signature of Staff In-charge
~~HOD~~


Signature of
HOD





DPG Degree College , Gurgaon

LESSON- PLAN

Course Name: B.sc (Pass Course)

IIIRD Semester

**PROGRAMME NAME: BACHELOR OF
SCIENCE (Med/Non med)**

No. of Lecture Hours/Week	60	Subject	INORGANIC CHEMISTRY
Total No. of Lecture Hours	3600	Semester	3 rd
Course Code:	301	Session	2019-20

Staff Name & Designation: Dr. Ginni Rani, Assistant Professor of CHEMISTRY.

Course Objectives:

1. To introduce the facts, terms and basic concepts inorganic chemistry
2. To understand the bonding in compounds
3. To know about basic theory of coordination
4. To know properties of d block elements

S.NO.

TOPICS

UnitNo.
Unit 1

Atomic and ionic radii

Day 2

Regular Class

Chalk and
Duster

Ionization energy

Day 3

Regular Class

Chalk and
Duster

Coloured compounds of d block

Day 4

Regular Class

Chalk and
Duster

Magnetic properties

Day 5

Regular Class

Chalk and
Duster

Reducing properties

Day 6

Regular Class

Chalk and
Duster

Oxidation states

Day 7

Regular Class

Chalk and
Duster

Metallic properties

Day 8

Regular Class

Chalk and
Duster

position in the periodic table,

Day 9

Regular Class

Chalk and
Duster

General characteristics & properties of 1st transition elements

Day 10

Regular Class

Chalk and
DusterStructures & properties of some compounds of transition elements – TiO_2 , VOCl_2

Day 11

Regular Class

Chalk and
DusterStructures & properties of some compounds of transition elements – FeCl_3 , CuCl_2

Day 12

Regular Class

Chalk and
DusterStructures & properties of some compounds of transition elements – $\text{Ni}(\text{CO})_4$

Day 13

Regular Class

Chalk and
Duster

Comparison with second transition metals and third transition metals

Day 14

Regular Class

Chalk and
Duster

Assignment

Day 15

Regular Class

Chalk and
Duster

Test

Day 16

Regular Class

Chalk and
Duster

Unit 2

Introduction of second and third transition metals

Day 17

Regular Class

Chalk and
Duster

Atomic and ionic radii

Day 18

Regular Class

Chalk and
Duster

Ionization energy

Day 19

Regular Class

Chalk and
Duster

Coloured compounds of d block

Day 20

Regular Class

Chalk and
Duster

Magnetic properties

Day 21

Regular Class

Chalk and
Duster

Reducing properties

Day 22

Regular Class

Chalk and
Duster

Oxidation states

Day 23

Regular Class

Chalk and
Duster

Metallic properties

Day 24

Regular Class

Chalk and
Duster

position in the periodic table,

Day 25

Regular Class

Chalk and
Duster

26		General characteristics and properties of the II nd and III rd transition elements	Day 26	Regular Class	Chalk and Duster
27	Unit 3	Comparison of properties of 3d elements with 4d & 5d elements with reference only to ionic radii, oxidation state,	Day 27	Regular Class	Chalk and Duster
28		Comparison of properties of 3d elements with 4d & 5d elements with reference only to oxidation state	Day 28	Regular Class	Chalk and Duster
29		Magnetic and Spectral properties	Day 29	Regular Class	Chalk and Duster
30		Stereochemistry	Day 30	Regular Class	Chalk and Duster
31		Test	Day 31	Regular Class	Chalk and Duster
32		Coordination compounds	Day 32	Regular Class	Chalk and Duster
33		Double salts, coordination sphere	Day 33	Regular Class	Chalk and Duster
34		metal	Day 34	Regular Class	Chalk and Duster
35		ligand	Day 35	Regular Class	Chalk and Duster
36		chelates	Day 36	Regular Class	Chalk and Duster
37		nomenclature of coordination compounds	Day 37	Regular Class	Chalk and Duster
38		isomerism in coordination compounds	Day 38	Regular Class	Chalk and Duster
39		Werner's coordination theory	Day 39	Regular Class	Chalk and Duster
40		Sidwick theory	Day 40	Regular Class	Chalk and Duster
41		effective atomic number concept	Day 41	Regular Class	Chalk and Duster
42	Unit 4	valence bond theory of transition metal complexes	Day 42	Regular Class	Chalk and Duster
43		Limitations of valence bond theory	Day 43	Regular Class	Chalk and Duster
44		Coordination geometry	Day 44	Regular Class	Chalk and Duster
45		Assignment	Day 45	Regular Class	Chalk and Duster
46		TEST	Day 46	Regular Class	Chalk and Duster
47		Introduction	Day 47	Regular Class	Chalk and Duster

48		Different theories of acid	Day 48	Regular Class	Chalk and Duster
49		Different theories of base	Day 49	Regular Class	Chalk and Duster
50		Non aqueous solvent	Day 50	Regular Class	Chalk and Duster
51		General characteristics of solvent	Day 51	Regular Class	Chalk and Duster

52		Physical properties of a solvent	Day 52	Regular Class	Chalk and Duster
53		Reactions in non-aqueous solvents with reference to liquid NH ₃ and liquid SO ₂	Day 53	Regular Class	Chalk and Duster
54		Properties of NH ₃	Day 54	Regular Class	Chalk and Duster
55		Properties of SO ₂	Day 55	Regular Class	Chalk and Duster
56		Comparison between aqueous and non aqueous solvent	Day 56	Regular Class	Chalk and Duster
57		Application and uses	Day 57	Regular Class	Chalk and Duster
58		Chemical properties	Day 58	Regular Class	Chalk and Duster
59		Assignment	Day 59	Regular Class	Chalk and Duster
60		test	Day 60	Regular Class	Chalk and Duster

##Nature of class may be: regular class/tutorial class/extra class/ etc.

#Remarks column mention: chalk & talk /ICT based/ Flip class

Text Books

1 JBD

2 Modern

Reference Books

1. Inorganic chemistry by satya prakash
2. Inorganic chemistry by J A Huheey

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

CO 1	. Able to define and recall facts and terms of different theories in chemistry.
CO 2	Able to predict the geometries of simple molecules.

CO 3	Able to know the different theories of acid and base.
CO 4	Able to know the concepts of coordination chemistry.

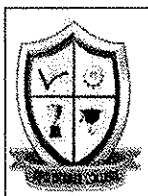
CO-PO-PSO Mapping:

	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PSO	PSO	PSO
CO1															
CO2															
CO3															
CO4															

Remarks of H.O.D. :-

Signature of Staff In-charge

Signature of HOD



DPG Degree College , Gurgaon 122001

LESSON- PLAN

Programme Name: Master of Commerce

No. of Lecture Hours/Week	5/Week	Course Name	Corporate tax Planning & Management
Course Code	17MCO 24C2	Semester	IV
Session	2022-23	Faculty Name	Dr.Devkanya Gupta

Staff Name & Designation: Dr.Devkanya Gupta, Associate Professor

Course Objectives:

- 1.To Make Students Familiar with taxation system in India.
2. To develop broad understanding about Tax evasion,Tax Avoidance & Tax Planning.
- 3.To create awareness about the Income Tax.Incentive provided to the industrial undertaking.
- 4.To acquaint students with various issues involved with the assets used in business. And give intense knowledge on double taxation relief.

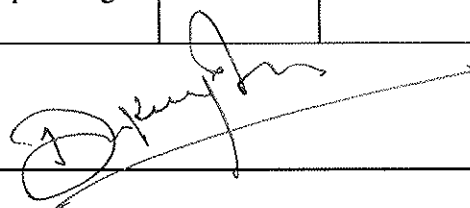
S.N O.	Unit No.	Topics to be covered	Day	Nature of class	Teaching Aids
1	Unit I	Detailed Introduction about Corporation tax,with reference to previous class syllabus	18/1/23	Off line Class	Chalk& Duster
2		Concept of Tax evasion & Tax Avoidance and tax Planning	19/1/23	Off line Class	Chalk& Duster
3		Difference between tax planning,Tax Evasion and Tax Avoidance	20/1/23	Off line Class	ICT
4		Discussion on tools used for tax planning and Tax Management	13/2/23	Off line Class	Chalk& Duster

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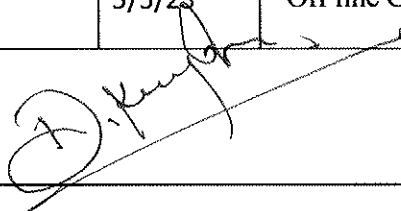
5		Deductions available for individuals and corporation under section 80	14/2/23	Off line Class	Chalk& Duster
6		Deductions under section 80 I for infrastructure	15/2/23	Off line Class	Chalk& Duster
7		Deduction based problems	16/2/23	Off line Class	Chalk& Duster
8		Deductions under section 54 in respect of capital gain	17/2/23	Off line Class	Chalk& Duster
9		Precautions used while doing tax planning	20/2/23	Off line Class	Chalk& Duster
10		Tax Planning for new business set up	21/2/23	Off line Class	Chalk& Duster
11		Tax planning ideas for Capital structure,Form Of new Business	13/2/23	Off line Class	ICT
12		Tax panning for new business in respect of location	14/2/23	Off line Class	Chalk& Duster
13		Presentation by students on New Business Establishment & Tax planning	15/2/23	Class	Flip Class
14		Presentation by students on New Business Establishment & Tax planning	16/2/23	Off line Class	Chalk& Duster
15		Presentation by students on New Business Establishment & Tax planning	17/2/23	Off line Class	Group Discussion
16		Presentation by students on New Business Establishment & Tax planning	18/2/23	Off line Class	Chalk& Duster
17	Unit II	Discussion on free trade zone	20/2/23	Off line Class	Chalk& Duster
18		Free trade zone study with respect to tax planning	21/2/23	Off line Class	Chalk& Duster
19		Discussion on backward areas and business planning	22/2/23	Off line Class	Flip Class
20		Brain storming session on tax issues and development country	23/2/23	Off line Class	Chalk& Duster

21	Concept of amalgamations:	24/2/23	Off line Class	Chalk& Duster
22	Discussion on various types of amalgamation and need of amalgamation	27/2/23	Off line Class	ICT
23	Concept about amalgamating company & amalgamated company	28/2/23	Off line Class	Chalk& Duster
24	Role of Share holder of amalgamating& Amalgamated companies.	1/3/23	Off line Class	Group Discussion
25	Tax planning with reference to amalgamation of companies.	2/3/23	Off line Class	Chalk& Duster
26	Discussion Case studies based on amalgamation	3/3/23	Off line Class	Chalk& Duster
27	Case studies based on Newly business setup	6/3/23	Off line Class	Chalk& Duster
28	Case studies based on Tax planning with respect of capital Structure	13/3/23	Off Class	Group Discussion
29	Practical Problems based on Tax planning	14/3/23	Off line Class	Chalk& Duster
30	Practical Problems based on Tax planning	15/3/23	Off line Class	Chalk& Duster
31	Practical Problems based on Tax planning	16/3/23	Off line Class	Chalk& Duster
32	Discussion on Financial Management Decisions	17/3/23	Off line Class	Flip Class
33	Types of Financial Decisions	27/3/23	Off line Class	Chalk& Duster
34	Tax Planning while making financial decisions	28/3/23	Off line Class	Chalk& Duster

35		Impact of financial decisions on financial & Tax management	29/3/23	Off line Class	ICT
36		Tax planning Related to Capital structure	30/3/23	Off line Class	Chalk& Duster
37		Discussion on Dividend Policy	3/4/23	Off line Class	Chalk& Duster
38		Study on various Dividend Policies	4/4/23	Off line Class	Chalk& Duster
39		Inter corporate Dividends	5/4/23	Off line Class	Chalk& Duster
40		Discussion on bonus Shares and bonus debentures with reference to previous class	6/4/23	Off line Class	Flip Class
41		Lease concept with types of lease	7/4/23	Off line Class	Chalk& Duster
42		Tax planning in respect of own or lease.	10/4/23	Off line Class	Chalk& Duster
43		Practical Problems based on Lease or own	11/4/23	Off line Class	Chalk& Duster
44		Practical Problems based on Lease or own	12/4/23	Off line Class	Chalk& Duster
45		Practical Problems based on Lease or own	13/4/23	Off line Class	Chalk& Duster
46		Class-Test	14/4/23	Off line Class	Chalk& Duster
47	Unit IV	Tax planning In respect of Sale of assets used for scientific research	17/4/23	Off line Class	ICT
48		Discussion on various tools regarding tax planning	29/3/23	Off line Class	ICT
49		Practical problems based on tax planning	30/3/23	Off line Class	Chalk& Duster
50		Class –test	3/4/23	Off line Class	Chalk& Duster
51		Make or buy decisions & Tax planning	4/4/23	Off line Class	Chalk& Duster
52		Practical Problems based on Make or buy decisions & Tax planning	5/4/23	Off line Class	Chalk& Duster



53	practical Problems based on Make or buy decisions & Tax planning	6/4/23	Off line Class	Flip Class
54	Tax Planning With replace, Renewal or renovation	7/4/23	Off line Class	Chalk& Duster
55	Discussion on various Practical Problems of replace, Renewal or renovation	10/4/23	Off line Class	Chalk& Duster
56	Decision making process of Shut down or continue business	11/4/23	Off line Class	Chalk& Duster
57	Tax planning in respect of selling in domestic or foreign market.	12/4/23	Off line Class	Chalk& Duster
58	Availability of various incentives for exporters.	13/4/23	Off line Class	Chalk& Duster
59	Concept of Double taxation.	14/4/23	Off line Class	Chalk& Duster
60	Double taxation relief and tax planning.	18/4/23	Off line Class	Group Discussion
61	Tax liabilities Computation	19/4/23	Off line Class	Chalk& Duster
62	Practical Problems of Corporate tax liability	20/4/23	Off line Class	Chalk& Duster
63	Practical Problems Based on Corporate tax liab	21/4/23	Off line Class	Flip Class
64	Students doubt	24/4/23	Off line Class	ICT
65	Power Point presentation by students	25/4/23	Off line Class	ICT
66	Power Point presentation by students	26/4/23	Off line Class	ICT
67	Power Point presentation by students	27/4/23	Off line Class	ICT
68	Power Point presentation by students	28/4/23	Off line Class	ICT
69	Power Point presentation by students	5/5/23	Off line Class	ICT



70	Power Point presentation by students	8/5/23	Off line Class	ICT
71	Review class	11/5/23	Off line Class	ICT
72	Importance of tax planning	12/5/23	Off line Class	Chalk& Duster
73	Corporate tax & Govt.Revenue	15/5/23	Off line Class	Chalk& Duster
74	Students Doubt	16/5/23	Off line Class	Chalk& Duster

Text Books:

1. Corporate Tax Planning & Management: Dr. H.C.Mehrotra & Dr. S.P.Goyal
Sahitya Bhawan Agra.

Reference Books

1. Direct Tax Planning & Management: Dr. V.K. Singhania, Dr. Kapil Singhania, Monica Singhania, Taxmann Publications.
2. Planning and Management of Corporate Taxation: V.P.Gaur, DB Narang, Rajeev Puri- Kalyani Publishers, New Delhi.

Course Outcomes: At the end of this course

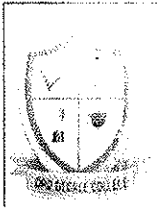
1. students will be very acquainted with taxation system of India.
2. Students will be able to do Tax Planning by applying various deductions.
3. Student will aware about the Income Tax Incentive provided to the industrial undertaking.
4. Students will able to understand various issues involved with the assets used in business. And having knowledge on double taxation relief.

Remarks

Signature of Staff In-charge

(Dr. Deekanya Gupta)

Signature of HOD



DPG Degree College, Gurugram

LESSON PLAN

PROGRAMME: B.COM PASS

No. of Lecture Hours/Week	5/Week	SUBJECT	BANKING LAW
Total No. of Lecture Hours		SEMESTER	4th
COURSE CODE	4.06(ii)	SESSION	2022-2023

Staff Name & Designation: MS. GEETANJALI, ASSISTANT PROFESSOR.

Course Objectives:

1. To give them outline about Banking system in India.
2. To aware the students about Functioning of Banks.
3. To aware the students about Role of Banking sector.
4. To aware the students about Credit creation Process and Money supply.

Geetanjali

S.N O.	Unit No.	Topics to be covered	Date	Nature of class	Teaching Ai
1	UNIT-I	Overview of Indian Banking system	18.01.23	Classroom	Chalk and Boa
2		Types of Banks	19.01.23	Classroom	Chalk and Boa
3		Different banking system	20.01.23	Classroom	Chalk and Boa
4		Commercial banks	13.02.23	Classroom	Chalk and Boa
5		Various functions of commercial banks	14.02.23	Classroom	Chalk and Boa
6		Commercial banks and underdeveloped countries	15.02.23	Classroom	Chalk and Boa
7		Structure of commercial banks in India	16.02.23	Classroom	Chalk and Boa
8		Introduction of Non-performing assets	17.02.23	Classroom	Chalk and Boa
9		Classification of Non-performing assets	20.02.23	Classroom	Chalk and Boa
10		Criteria of NPAs	21.02.23	Classroom	Chalk and Boa
11		Causes of Non-performing assets	22.02.23	Classroom	Chalk and Boa
12		Measures to tackle the problem of NPAs	23.02.23	Classroom	Chalk and Boa
13		Trends of Non-performing assets in banks	24.02.23	Classroom	Chalk and Boa
14		Revision	27.02.23	Classroom	Chalk and Boa
15		Class test	28.02.23	Classroom	Chalk and Boa
16	UNIT-II	Introduction of Regional Rural Banks	01.03.23	Classroom	Chalk and Boa
17		Functions of RRB s	02.03.23	Classroom	Chalk and Boa
18		Problems of RRB s	03.03.23	Classroom	Chalk and Boa
19		Suggestions and recommendations for improvement	06.03.23	Classroom	Chalk and Boa
20		Introduction of cooperative banks	07.03.23	Classroom	Chalk and Boa
21		Importance of cooperative banking in India	13.03.23	Classroom	Chalk and Boa
22		Causes of slow progress of cooperative banking	14.03.23	Classroom	Chalk and Boa
23		Suggestions for reforms	15.03.23	Classroom	Chalk and Boa
24		Recommendations of Kapoor committee	16.03.23	Classroom	Chalk and Boa
25		Reserve Bank of India	17.03.23	Classroom	Chalk and Boa
26		Functions of RBI	27.03.23	Classroom	Chalk and Boa
27		Regulatory functions of RBI	28.03.23	Classroom	Chalk and Boa
28		Achievements and failures of RBI	29.03.23	Classroom	Chalk and Boa
29		Revision	30.03.23	Classroom	Chalk and Boa

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30	UNIT-III	Class test	31.03.23	Classroom	Chalk and Board
31		Overview about monetary policy	03.04.23	Classroom	Chalk and Board
32		Objectives and Target of monetary policy	04.04.23	Classroom	Chalk and Board
33		Monetary policy and economic stabilisation	05.04.23	Classroom	Chalk and Board
34		Monetary policy and economic development	06.04.23	Classroom	Chalk and Board
35		Features and limitations of monetary policy in India	07.04.23	Classroom	Chalk and Board
36		New monetary policy of RBI	10.04.23	Classroom	Chalk and Board
37		Nominal and real rate of interest	11.04.23	Classroom	Chalk and Board
38		Structure of rate of interest	12.04.23	Classroom	Chalk and Board
39		Determination of market rate of interest	13.04.23	Classroom	Chalk and Board
40		Interest rate differential, regulations and deregulation.	14.04.23	Classroom	Chalk and Board
41		Introduction of banker and Bank customer	17.04.23	Classroom	Chalk and Board
42		Obligations and rights of banker	18.04.23	Classroom	Chalk and Board
43		Garnishee order	19.04.23	Classroom	Chalk and Board
44		Revision	20.04.23	Classroom	Chalk and Board
45		Class test	21.04.23	Classroom	Chalk and Board
46		Special types of bank customers	24.04.23	Classroom	Chalk and Board
47		Introduction of negotiable instruments	25.04.23	Classroom	Chalk and Board
48		Essential features and presumptions of negotiable instrument	26.04.23	Classroom	Chalk and Board
49		Kinds of negotiable instruments	27.04.23	Classroom	Chalk and Board
50		Cheques and types of crossing	28.04.23	Classroom	Chalk and Board
51		Comparison among negotiable instruments	08.05.23	Classroom	Chalk and Board
52	UNIT-IV	Inland and foreign instruments	09.05.23	Classroom	Chalk and Board
53		Holder of a negotiable instrument	10.05.23	Classroom	Chalk and Board
54		Special privileges of a holder in due course	11.05.23	Classroom	Chalk and Board
55		Payment in due course	12.05.23	Classroom	Chalk and Board
56		Parties to negotiable instrument	13.05.23	Classroom	Chalk and Board
57		Capacity and liabilities of parties to negotiable instrument	14.05.23	Classroom	Chalk and Board
58		Discharge of parties to negotiable instrument	15.05.23	Classroom	Chalk and Board

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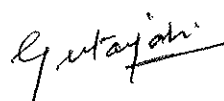
Revision	16.05.23	Classroom	Chalk and Board
Class Test	16.05.23	Classroom	Chalk and Board

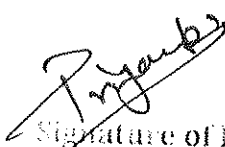
Text Books:

Banking and Banking Law: T.R. Jain, B.D. Majhi – VK Publications

Course Outcomes: At the end of the course,

- CO1. Students will be able to understand the Indian banking system
- CO2. Students will be able to know the RBI and its functioning.
- CO3. Students will be able to understand about Monetary Policy.
- CO4. Students will be able to gather knowledge about Negotiable instrument.


Signature of Staff in-charge


Signature of HOD

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DPG DEGREE COLLEGE

(Affiliated to MDU, Rohtak)

Sector-34, Near Marble Market, Gurugram, 122001

LESSON PLAN

COURSE NAME: GOODS AND SERVICES TAX AND CUSTOMS LAW

No. of Lecture Hours/Week	5/Week	Subject	G.S.T & Customs law
Total No. of Lecture Hours		Semester	VI
Course Code:	6.05	Session	2022-23

Staff Name & Designation: Ms. Geetanjali, Assistant Professor.

Course Objectives:

The Course aims to facilitate learning in following ways:

1. To enable the students to understand different aspects of GST and Customs law.
2. Providing specialized and updated knowledge in the area of GST in a systematic manner.
3. Enhancing analytical and problem solving skills for decision making.

Geetanjali

Sr. no.		Name of the topic	Date	Type of class	Teaching style
1	Unit I	Introduction- Salient feature of GST	18.01.23	Regular	Chalk and Board
2		Benefit of GST	19.01.23	Regular	Chalk and Board
3		Constitutional Framework of Goods and Services tax.	20.01.23	Regular	Chalk and Board
4		Concept of G.S.T	13.02.23	Regular	Chalk and Board
5		Important definitions under G.S.T	14.02.23	Regular	Chalk and Board
6		Supply under GST: introduction	15.02.23	Regular	Chalk and Board
7		scope of supply	16.02.23	Regular	Chalk and Board
8		Composite and mixed supply	17.02.23	Regular	Chalk and Board
9		levy and collection	20.02.23	Regular	Chalk and Board
10		Revenue charge mechanism	21.02.23	Regular	Chalk and Board
11		Tax on electronic commerce operator(ECO)	22.02.23	Regular	Chalk and Board
12		Exemption from GST	23.02.23	Regular	Chalk and Board
13		Composition LEVY	24.02.23	Regular	Chalk and Board
14		Revision of unit I	27.02.23	Regular	Chalk and Board
15		Class test	28.02.23	Regular	Chalk and Board
16		Place of Supply rules within state/Union territory	01.03.23	Regular	Chalk and Board
17		Place of supply rules on Interstate, Import and export	02.03.23	Regular	Chalk and Board
18		Time of Supply of goods	03.03.23	Regular	Chalk and Board
19		Time of supply of services	06.03.23	Regular	Chalk and Board
20	Unit II	Value of supply;-introduction	07.03.23	Regular	Chalk and Board
21		Valuation rules	13.03.23	Regular	Chalk and Board
22		Input tax credit:-	14.03.23	Regular	Chalk and Board
23		Apportionment of credit and blocked credit	15.03.23	Regular	Chalk and Board
24		ITC in case of banking company and financial institutions.	16.03.23	Regular	Chalk and Board
25		ITC availability in special circumstances.	17.03.23	Regular	Chalk and Board
26		Reversal of ITC on switching to composition levy or exit from tax-paying status	27.03.23	Regular	Chalk and Board

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27	Transfer of ITC on account of change in constitution of registered person	28.03.23	Regular	Chalk and Board
28	Input service distributors;	29.03.23	Regular	Chalk and Board
29	Revision and discussion on assignment	30.03.23	Regular	Chalk and Board
30	Correction of assignments	31.03.23	Regular	Chalk and Board
31	Registration	03.04.23	Regular	Chalk and Board
32	Issue of invoices:- tax invoice, revised tax invoice,	04.04.23	Regular	Chalk and Board
33	credit note, debit note	05.04.23	Regular	Chalk and Board
34	bill of supply, receipt voucher,	06.04.23	Regular	Chalk and Board
35	refund voucher, payment voucher, invoices in special cases.	07.04.23	Regular	Chalk and Board
36	E-way bill;	10.04.23	Regular	Chalk and Board
37	Payment of Taxes	11.04.23	Regular	Chalk and Board
38	Returns	12.04.23	Regular	Chalk and Board
39	; Job work	13.04.23	Regular	Chalk and Board
40	Provision of TDS and TCS	14.04.23	Regular	Chalk and Board
41	Record keeping	17.04.23	Regular	Chalk and Board
42	Assessment	18.04.23	Regular	Chalk and Board
43	Audit	19.04.23	Regular	Chalk and Board
44	revision	20.04.23	Regular	Chalk and Board
45	Class test	21.04.23	Regular	Chalk and Board
46	Customs duty act 1962 -introduction	24.04.23	Regular	Chalk and Board
47	Important terminology in Customs duty act 1962	25.04.23	Regular	Chalk and Board

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48	Important definitions	26.04.23	Regular	Chalk and Board
49	Types of custom duties	27.04.23	Regular	Chalk and Board
50	Documents required in import procedure	28.04.23	Regular	Chalk and Board
51	Documents required for export procedure	08.05.23	Regular	Chalk and Board
52	Rules for clearance of goods	09.05.23	Regular	Chalk and Board
53	Special rulings in customs Act	10.05.23	Regular	Chalk and Board
54	Export Promotion schemes	11.05.23	Regular	Chalk and Board
55	Importance of customs duty	12.05.23	Regular	Chalk and Board
56	Assessment and provisional assessment of custom duty	13.05.23	Regular	Chalk and Board
57	Rules for goods in transit	14.05.23	Regular	Chalk and Board
58	revision	15.05.23	Regular	Chalk and Board
59	Class test 1	16.05.23	Regular	Chalk and Board
60	Class test 2	16.05.23	Regular	Chalk and Board

Text Books:

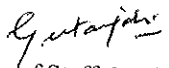
Goods and Services Tax –Sanjeet Sharma, Shalini Anand, V. publications.

Reference Books

1. Goods and Services Tax- Parveen Gupta and R. K. Tyagi, SBPD Publishing House, Agra .2. GST and Custom Law- Anoop Modi and Mahesh Gupta, SBPD Publication, Agra
3. Goods and Services Tax including Customs Duty Act- Prof. C.K. Shah and Prof. S.K. Mangal, RBD Publishing House, Jaipur
4. Goods and Services Tax (GST) – Dr. H.C. Maheshwari and Prof. V.P. Aggarwal, Sahitya Bhawan Publication.

Course Outcomes: After the completion of the course, students will be able to:-

1. To have knowledge of salient features of G.S.T
2. To help the students of understanding about the issues related to place of supply and input tax credit.
3. To equip the students with proper knowledge about Registration, payment of taxes and audit in G.S.T.
4. To make them understand about custom duty and various aspects involved in it.


Signature of Staff In-charge


Signature of HOD

Dean Academic



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Master of Science

No. of Lecture Hours/Week	5/Week	Subject	Partial Differential 1 EQUATION
Total No. of Lecture Hours		Semester	2nd
Course Code:	16MAT22C4	Session	2019- 2020

Staff Name & Designation: Pooja Goel, Assistant Professor

Course Objectives:

1. To help to understand the fundamental familiarity with partial differential equations and their applications .
2. To distinguish between linear and nonlinear partial differential equations
3. To Solve boundary value problems related to Laplace, heat and wave equations by various methods.

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O.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
			1day	Offline class	Chalk&Duster
		Method of separation of variables to solve Boundary Value Problems (B.V.P.) associated with one dimensional heat equation.	2day	Offline class	Chalk&Duster
		Steady state temperature in a rectangular plate	3day	Offline class	Chalk&Duster
		Circular disc	4day	Offline class	Chalk&Duster
4		Semi-infinite plate	5day	Offline class	Chalk&Duster
5		The heat equation in semi-infinite and infinite regions	6day	Offline class	Chalk&Duster
6		Solution of three dimensional Laplace equations	7day	Offline class	Chalk&Duster
7		Heat Equations	8day	Offline class	Chalk&Duster
8		Wave Equations in cartesian	9day	Offline class	Chalk&Duster
9		Cylindrical and spherical coordinates	10day	Offline class	Chalk&Duster
10		Method of separation of variables to solve B.V.P. associated with motion of a vibrating string	11day	Offline class	Chalk&Duster
11	Unit I	Solution of wave equation for semi-infinite and infinite strings	12day	Offline class	Chalk&Duster
12		Problems Based on Heat Equation	13day	Offline class	Chalk&Duster
13		Problem Based on Wave Equation	14day	Offline class	Chalk&Duster
14		Assignment	15day	Offline class	Chalk&Duster
15		Assignment Discussion	16day	Offline class	Chalk&Duster
16		Class Test	17day	Offline class	Chalk&Duster
17		Classification of Partial Differential Equation	18day	Offline class	Chalk&Duster
18		Examples of PDE classification.	19day	Offline class	Chalk&Duster
19		Homogeneous Transport equation	20day	Offline class	Chalk&Duster
20	Unit 2	Non-Homogeneous Transport equation	21day	Offline class	Chalk&Duster
21		Initial Value Problem based on Transport Equation	22day	Offline class	Chalk&Duster
22		Class Test			

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		Fundamental solution of Laplace equation	23day	Offline class	Chalk&Duster
		Mean value formula	24day	Offline class	Chalk&Duster
		Properties of harmonic functions	25day	Offline class	Chalk&Duster
		Green function	26day	Offline class	Chalk&Duster
		Problem Based on Green Function	27day	Offline class	Chalk&Duster
		Assignment	28day	Offline class	Chalk&Duster
		Assignment Discussion	29day	Offline class	Chalk&Duster
		Class Test	30day	Offline class	Chalk&Duster
	Unit-3	Fundamental solution of Heat equation	31day	Offline class	Chalk&Duster
2		Mean value formula of Heat equation	32day	Offline class	Chalk&Duster
3		Properties of solutions	33day	Offline class	Chalk&Duster
4		Properties of solutions	34day	Offline class	Chalk&Duster
5		Energy Method	35day	Offline class	Chalk&Duster
6		Wave Equation – Solution by spherical means	36day	Offline class	Chalk&Duster
37		Non-homogeneous equations	37day	Offline class	Chalk&Duster
38		Energy methods of Wave Equation	38day	Offline class	Chalk&Duster
39		Theorem based on Wave Equation	39day	Offline class	Chalk&Duster
40		Theorem based on Wave Equation	40day	Offline class	Chalk&Duster
41		Revision	41day	Offline class	Chalk&Duster
42		Assignment	42day	Offline class	Chalk&Duster
43		Assignment discussion	43day	Offline class	Chalk&Duster
44		Class Test	44day	Offline class	Chalk&Duster
45	Unit-4	Complete integrals of nonlinear partial differential equation	45day	Offline class	Chalk&Duster
46		Envelopes	46day	Offline class	Chalk&Duster
47		Characteristics of PDE	47day	Offline class	Chalk&Duster
48		Hamilton Jacobi Equation	48day	Offline class	Chalk&Duster

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Hopf-Lax formula	49day	Offline class	Chalk&Duster
Weak solutions	50day	Offline class	Chalk&Duster
Uniqueness Theorem	51day	Offline class	Chalk&Duster
Previous year question Discussion	52day	Offline class	Chalk&Duster
Previous year question Discussion	53day	Offline class	Chalk&Duster
Class Test	54day	Offline class	Chalk&Duster
Revision	55day	Offline class	Chalk&Duster
Class Test Discussion	56day	Offline class	Chalk&Duster
Class Test	57day	Offline class	Chalk&Duster
Assignment	58day	Offline class	Chalk&Duster
Assignment Discussion	59day	Offline class	Chalk&Duster
Class Test	60day	Offline class	Chalk&Duster

Text Books:

- 1.N. Sneddon, Elements of Partial Differential Equations, McGraw Hill, New York.
- 2.Peter V. O'Neil, Advanced Engineering Mathematics, ITP

Reference Books

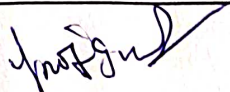
- 1.L.C. Evans, Partial Differential Equations: Second Edition (Graduate Studies in Mathematics) 2nd Edition, American Mathematical Society, 2010. H.F. Weinberger,
- 2.A First Course in Partial Differential Equations, John Wiley & Sons, 1965.
- 3.M.D. Raisinghania, Advanced Differential equations, S. Chand & Co

Course Outcomes:

- CO1 Establish a fundamental familiarity with partial differential equations and their applications.
- CO2 Distinguish between linear and nonlinear partial differential equations.
- CO3 Solve boundary value problems related to Laplace, heat and wave equations by various methods
- CO4 Use Green's function method to solve partial differential equations
- CO5 Find complete integrals of Non-linear first order partial differential equations.

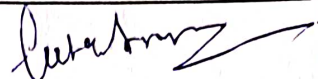
REMARKS:

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Pooja Goel

Signature of Staff In-charge



Dr. Geeta

Signature of HOD





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		Semester	4th
Course Code:	17MAT24C3	Session	2019-20

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.

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NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
	Unit I	Vorticity in two dimensions	1day	Offline class	Chalk&Duster
		Circular and rectilinear vortices	2day	Offline class	Chalk&Duster
		Vortex doublet	3day	Offline class	Chalk&Duster
		Images,	4day	Offline class	Chalk&Duster
		Motion due to vortices,	5day	Offline class	Chalk&Duster
		Single infinite rows of vortices	6day	Offline class	Chalk&Duster
		Double infinite rows of vortices	7day	Offline class	Chalk&Duster
		Karman vortex street	8day	Offline class	Chalk&Duster
		Wave motion in a Gas	9day	Offline class	Chalk&Duster
		Speed of sound in a gas.	10day	Offline class	Chalk&Duster
		Equation of motion of a Gas	11day	Offline class	Chalk&Duster
		Subsonic, sonic and supersonic flows	12day	Offline class	Chalk&Duster
		Isentropic gas flow, Flow through a nozzle.	13day	Offline class	Chalk&Duster
		Assignment	14day	Offline class	Chalk&Duster
		Assignment Discussion	15day	Offline class	Chalk&Duster
		Class Test	16day	Offline class	Chalk&Duster
7	Unit 2	Stress components in a real fluid	17day	Offline class	Chalk&Duster
8		Relation between Cartesian components of stress	18day	Offline class	Chalk&Duster
9		Translational motion of fluid element	19day	Offline class	Chalk&Duster
0		Rates of strain	20day	Offline class	Chalk&Duster
1		Transformation of rates of strains	21day	Offline class	Chalk&Duster
2		Relation between stresses and rates of strain	22day	Offline class	Chalk&Duster
3		Co-efficient of viscosity, laminar flow.	23day	Offline class	Chalk&Duster

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		Newtonian and non-Newtonian fluids.	24day	Offline class	Chalk&Duster
		Navier-Stoke equations of motion	25day	Offline class	Chalk&Duster
		Equations of motion in cylindrical and spherical polar coordinates	26day	Offline class	Chalk&Duster
		Diffusion of vorticity	27day	Offline class	Chalk&Duster
3		Energy dissipation due to viscosity.	28day	Offline class	Chalk&Duster
9		Assignment	29day	Offline class	Chalk&Duster
0		Class Test	30day	Offline class	Chalk&Duster
1	Unit-3	Plane Poiseuille between two parallel plates	31day	Offline class	Chalk&Duster
32		Couette flows between two parallel plates	32day	Offline class	Chalk&Duster
33		Theory of lubrication	33day	Offline class	Chalk&Duster
34		Hagen Poiseuille flow	34day	Offline class	Chalk&Duster
35		Steady flow between co-axial circular cylinders	35day	Offline class	Chalk&Duster
36		Steady flow between concentric rotating cylinders	36day	Offline class	Chalk&Duster
37		Flow through tubes of uniform elliptic cross-section	37day	Offline class	Chalk&Duster
38		Flow through tubes of uniform equilateral triangular cross-section	38day	Offline class	Chalk&Duster
39		Unsteady flow over a flat plate	39day	Offline class	Chalk&Duster
40		Steady flow past a fixed sphere	40day	Offline class	Chalk&Duster
41		Flow in convergent and divergent channels.	41day	Offline class	Chalk&Duster
42		Assignment	42day	Offline class	Chalk&Duster
43		Assignment discussion	43day	Offline class	Chalk&Duster
44		Class Test	44day	Offline class	Chalk&Duster
45	Unit-4	Dynamical similarity	45day	Offline class	Chalk&Duster
46		Inspection analysis	46day	Offline class	Chalk&Duster
47		Non-dimensional numbers	47day	Offline class	Chalk&Duster
48		Dimensional analysis.	48day	Offline class	Chalk&Duster
49		Buckingham π -theorem	49day	Offline class	Chalk&Duster

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Application of Buckingham π -theorem	50day	Offline class	Chalk&Duster
Physical importance of non-dimensional Parameter	51day	Offline class	Chalk&Duster
Prandtl boundary layer	52day	Offline class	Chalk&Duster
Boundary layer equation in two-dimensions	53day	Offline class	Chalk&Duster
The boundary layer on a flat plate (Blasius solution).	54day	Offline class	Chalk&Duster
Characteristic boundary layer parameters	55day	Offline class	Chalk&Duster
Karman integral conditions.	56day	Offline class	Chalk&Duster
Karman-Pohlhausen method	57day	Offline class	Chalk&Duster
Assignment	58day	Offline class	Chalk&Duster
Assignment Discussion	59day	Offline class	Chalk&Duster
Class Test	60day	Offline class	Chalk&Duster

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. Rath, 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.

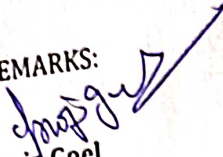
CO3 To Acquire knowledge of viscosity, relation between shear stress and rates of shear strain for Newtonian fluids, energy dissipation due to viscosity, and laminar and turbulent flows.

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.

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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



Dr. Geeta

Signature of HOD



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Master of Science

No. of Lecture Hours/Week	5/Week	Subject	Integral Equations and Calculus of Variations
Total No. of Lecture Hours		Semester	2nd
Course Code:	16MAT22C3	Session	2020-21

Staff Name & Designation: Pooja Goel, Assistant Professor

Course Objectives:

1. To Understand the methods to reduce Initial value problems .
2. To solve different integral equations using various techniques.
3. To describe importance of Green's function method for solving boundary value problems.

Pooja Goel

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Sl. NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
	Unit I	Linear Integral equations, Some basic identities	1day	Online class	Google Meet/ICT
		Initial value problems reduced to Volterra integral equations	2day	Online class	Google Meet/ICT
		Methods of successive substitution	3day	Online class	Google Meet/ICT
		Methods of successive approximation to solve Volterra integral equations of second kind	4day	Online class	Google Meet/ICT
		Iterated kernels	5day	Online class	Google Meet/ICT
		Neumann series for Volterra equations	6day	Online class	Google Meet/ICT
		Resolvent kernel as a series	7day	Online class	Google Meet/ICT
		Problem based on Resolvent kernel as a series	8day	Online class	Google Meet/ICT
		Problem based on Laplace transform method for a difference kernel	9day	Online class	Google Meet/ICT
		Laplace transform method for a difference kernel	10day	Online class	Google Meet/ICT
		Problem based on Laplace transform method for a difference kernel	11day	Online class	Google Meet/ICT
		Solution of a Volterra integral equation of the first kind	12day	Online class	Google Meet/ICT
		Problem based on Solution of a Volterra integral equation of the first kind	13day	Online class	Google Meet/ICT
		Assignment	14day	Online class	Google Meet/ICT

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		Assignment Discussion	15day	Online class	Google Meet/ICT
		Class Test	16day	Online class	Google Meet/ICT
		Boundary value problems reduced to Fredholm integral equations	17day	Online class	Google Meet/ICT
3		Methods of successive approximation	18day	Online class	Google Meet/ICT
9		Successive substitution to solve Fredholm equations of second kind	19day	Online class	Google Meet/ICT
20		Iterated kernels	20day	Online class	Google Meet/ICT
21		Neumann series for Fredholm equations	21day	Online class	Google Meet/ICT
22		Resolvent kernel as a sum of series.	22day	Online class	Google Meet/ICT
23	Unit 2	Fredholm resolvent kernel as a ratio of two series	23day	Online class	Google Meet/ICT
24		Fredholm equations with separable kernels.	24day	Online class	Google Meet/ICT
25		Approximation of a kernel by a separable kernel,	25day	Online class	Google Meet/ICT
26		Fredholm Alternative	26day	Online class	Google Meet/ICT
27		Non homogenous Fredholm equations with degenerate kernels	27day	Online class	Google Meet/ICT
28		Problem Based on Non homogenous Fredholm equations with degenerate kernels	28day	Online class	Google Meet/ICT
29		Assignment	29day	Online class	Google Meet/ICT
30		Class Test	30day	Online class	Google Meet/ICT
31	Unit-3	Green function	31day	Online class	Google Meet/ICT

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	Method of variation of parameters to construct the green function	32day	Online class	Google Meet/ICT
	Basic four properties of the green function	33day	Online class	Google Meet/ICT
	Alternate procedure for construction of the green function by using its basic four properties.	34day	Online class	Google Meet/ICT
	Reduction of a boundary value problem to a Fredholm integral equation with kernel as green function,	35day	Online class	Google Meet/ICT
	Hilbert-Schmidt theory for symmetric kernels	36day	Online class	Google Meet/ICT
	Problems based on green function	37day	Online class	Google Meet/ICT
	Problems based on green function	38day	Online class	Google Meet/ICT
	Class Test	39day	Online class	Google Meet/ICT
	Class Test Discussion	40day	Online class	Google Meet/ICT
	Previous year paper Discussion	41day	Online class	Google Meet/ICT
	Assignment	42day	Online class	Google Meet/ICT
	Assignment discussion	43day	Online class	Google Meet/ICT
	Class Test	44day	Online class	Google Meet/ICT
	Motivating problems of calculus of variations,	45day	Online class	Google Meet/ICT
	Shortest distance	46day	Online class	Google Meet/ICT
	Minimum surface of resolution, Brachistochrone problem	47day	Online class	Google Meet/ICT
	Isoperimetric problem	48day	Online class	Google Meet/ICT

Unit-4

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Problems Based on Isoperimetric problem	49day	Online class	Google Meet/ICT
Fundamental lemma of calculus of variations	50day	Online class	Google Meet/ICT
Euler equation for one dependent function	51day	Online class	Google Meet/ICT
Generalization to 'n' dependent functions and to higher order derivatives	52day	Online class	Google Meet/ICT
Conditional extremum under geometric constraints and under integral constraints.	53day	Online class	Google Meet/ICT
Geodesic	54day	Online class	Google Meet/ICT
Problem based on Geodesic	55day	Online class	Google Meet/ICT
Previous year paper question discussion	56day	Online class	Google Meet/ICT
Previous year paper question discussion	57day	Online class	Google Meet/ICT
Assignment	58day	Online class	Google Meet/ICT
Assignment Discussion	59day	Online class	Google Meet/ICT
Class Test	60day	Online class	Google Meet/ICT

Text Books:

A.J. Jerri, Introduction to Integral Equations with Applications, A WileyInterscience Publication, 1999.

2. R.P. Kanwal, Linear Integral Equations, Theory and Techniques, Academic Press, New York.

Reference Books

1.W.V. Lovitt, Linear Integral Equations, McGraw Hill, New York.

2. F.B. Hilderbrand, Methods of Applied Mathematics, Dover Publications.

3. J.M. Gelfand and S.V. Fomin, Calculus of Variations, Prentice Hall, New Jersey

Course Outcomes:

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

CO2 Categorize 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 techniques

REMARKS:


Pooja Goel

Signature of Staff In-charge



Dr. Geeta

Signature of HOD





DPG Degree College , Gurgaon

LESSON- PLAN

Course Name: Master Of Science

No. of Lecture Hours/Week	5/Week	Subject	General topology
Total No. of Lecture Hours	60	Semester	4th
Course Code:	17MAT24DA1	Session	2020-2021

Staff Name & Designation: MS Rinki Baghel, Assistant Professor ,Department of Mathematics.

Course Objectives:

Course Objectives:

1. Have the knowledge of the separation axioms.
2. Understand the concept of product topological spaces and their properties.
3. Be familiar with Tychonoff embedding theorem and Urysohn's metrization theorem.
4. Know about methods of generating nets and filters and their relations.
5. Describe paracompact spaces and their characterizations. Get familiar with the concepts of topological space and continuous functions.

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Unit No./ Bloom s level	Topics to be covered	Date	*Nature of class	Teaching Aid
Unit I	Regular axioms with example	DAY 1	Online class	ICT/Google Meet
	Normal axioms with example	DAY 2	Online class	ICT/Google Meet
	T3 and T4 separation axioms	DAY 3	Online class	ICT/Google Meet
	characterization and basic properties of separation axioms	DAY 4	Online class	ICT/Googlr Meet
	Urysohn lemma	DAY 5	Online class	ICT/Google Meet
	Tietze extension theorem	DAY 6	Online class	ICT/Google Meet
	Regularity and normality of a compact Hausdorff space	DAY 7	Online class	ICT/Google Meet
	Complete regularity, Complete normality	DAY 8	Online class	ICT/Google Meet
	T32 1and T5 spaces	DAY 9	Online class	ICT/Google Meet
	Their characterization and basic properties	DAY 10	Online class	ICT/Google Meet
	Definition and examples of topological spaces	DAY 11	Online class	ICT/Googlr Meet
12	Class test	DAY	Online class	ICT/Google

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		12		Meet
	Discussion of class test	DAY 13	Online class	ICT/Google Meet
	Doubt session	DAY 14	Online class	ICT/Google Meet
	Product topological spaces	DAY 15	Online class	ICT/Google Meet
	Projection mappings	DAY 16	Online class	ICT/Google Meet
	Tychonoff product topology in terms of standard subbases and its characterization	DAY 17	Online class	ICT/Google Meet
	Separation axioms and product spaces	DAY 18	Online class	ICT/Google Meet
	Product space as first axiom space	DAY 19	Online class	ICT/Google Meet
	Tychonoff product theorem	DAY 20	Online class	ICT/Google Meet
	Embedding and Metrization	DAY 21	Online class	ICT/Google Meet
	Embedding lemma and Tychonoff embedding theorem	DAY 22	Online class	ICT/Google Meet
	Metrizable spaces	DAY 23	Online class	ICT/Google Meet
	Urysohn metrization theorem	DAY 24	Online class	ICT/Google Meet
	Doubt session	DAY 25	Online class	ICT/Google Meet
	Recapitulation & Doubt Clearance Session	DAY 26	Online class	ICT/Google Meet
	Conducted Class Test	DAY 27	Online class	ICT/Google Meet
	Discussed the Class Test	DAY 28	Online class	ICT/Google Meet

UNIT
II

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	Group Discussion	DAY 29	Online class	ICT/Googlr Meet
	Nets : Nets in topological spaces	DAY 30	Online class	ICT/Google Meet
	Convergence of nets	DAY 31	Online class	ICT/Google Meet
	Hausdorffness and nets	DAY 32	Online class	ICT/Google Meet
	Subnet and cluster points	DAY 33	Online class	ICT/Google Meet
	Compactness and nets	DAY 34	Online class	ICT/Google Meet
35	Filters : Definition and examples	DAY 35	Online class	ICT/Googlr Meet
36	Collection of all filters on a set as a poset, Methods of generating filters and finer filters	DAY 36	Online class	ICT/Google Meet
37	Ultra filter and its characterizations	DAY 37	Online class	ICT/Google Meet
38	Ultra filter principle, Image of filter under a function	DAY 38	Online class	ICT/Google Meet
39	Limit point and limit of a filter	DAY 39	Online class	ICT/Google Meet
40	Hausdorffness and filters	DAY 40	Online class	ICT/Google Meet
41	Canonical way of converting nets to filters and vice versa	DAY 41	Online class	ICT/Googlr Meet
42	Stone-Cech compactification(Statement Only)	DAY 42	Online class	ICT/Google Meet
43	Recapitulation & Doubt Clearance Session	DAY 43	Online class	ICT/Google Meet
44	Conducted Class Test	DAY 44	Online class	ICT/Google Meet
45	Discussed the Class Test	DAY	Online class	ICT/Google

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	45		Meet
Covering of a space	Day 46	Online class	ICT/Google Meet
Local finiteness	DAY 47	Online class	ICT/Googlr Meet
Paracompact spaces	DAY 48	Online class	ICT/Google Meet
Paracompactness as regular space	DAY 49	Online class	ICT/Google Meet
Michael theorem on characterization of paracompactness	DAY 50	Online class	ICT/Google Meet
Michael theorem on characterization of paracompactness	DAY 51	Online class	ICT/Google Meet
Paracompactness as normal space	DAY 52	Online class	ICT/Google Meet
A. H. Stone theorem	DAY 53	Online class	ICT/Googlr Meet
Nagata- Smirnov Metrization theorem	DAY 54	Online class	ICT/Google Meet
Class test	DAY 55	Online class	ICT/Google Meet
Seminar	DAY 56	Online class	ICT/Google Meet
Discussed the Class Test	DAY 57	Online class	ICT/Googlr Meet
Recapitulation & Doubt Clearance Session	DAY 58	Online class	ICT/Google Meet
Recapitulation & Doubt Clearance Session	DAY 59	Online class	ICT/Google Meet
Discussed the previous year Papers	DAY 60	Online class	ICT/Google meet

Rinki

Text Books:

Text Books Recommended

- 1 C.W.Patty, Foundation of Topology, Jones & Bertlett, 2009.
2. J. L. Kelly, General Topology, Springer Verlag, New York, 2000.
- 3.K.D. Joshi, Introduction to General Topology, Wiley Eastern Ltd, 2006

Reference Books

Reference Books Recommended

- 1 .C.W.Patty, Foundation of Topology, Jones & Bertlett, 2009.
2. Fred H. Croom, Principles of Topology, Cengage Learning, 2009.
- 3 .George F. Simmons, Introduction to Topology and Modern Analysis, McGraw-Hill Book Company, 1963.
4. K. Chandrasekhara Rao, Topology, Narosa Publishing House Delhi, 2009.

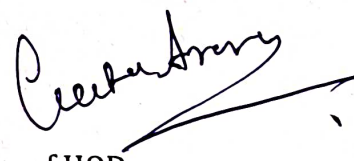
Course Outcomes

CO 1	Students would be able to Get familiar with the concepts Of separation axioms.
CO 2	Student can be able to Describe the concept of homeomorphism and topological invariance of separation axioms.
CO 3	Establish Locally connectedness and compactness of topological spaces and proofs of related theorems.
CO 4	Have in-depth knowledge of countability axioms and their properties.

REMARKS:

Rinu

Signature of Staff In-charge



Signature of HOD



D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: Integral Equations and Calculation of Variations

No. of Lecture Hours/Week	5	Subject	IE & COV
Total No. of Lecture Hours	69	Semester	II
Course Code:	16MAT22C3	Session	2022-23

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	13/02/23	Offline	Chalk & Duster
2		Some basic identities	14/02/23	Offline	Chalk & Duster
3		Initial value problems reduced to Volterra integral equations	15/02/23	Offline	Chalk & Duster
4		Initial value problems reduced to Volterra integral equations	16/02/23	Offline	Chalk & Duster
5		Methods of successive substitution	17/02/23	Offline	Chalk & Duster
6		successive approximation to solve Volterra integral equations of second kind	20/02/23	Offline	Chalk & Duster
7		successive approximation to solve Volterra integral equations of second kind	21/02/23	Offline	Chalk & Duster
8		Iterated kernels	22/02/23	Offline	Chalk & Duster
9		Neumann series for Volterra equations	23/02/23	Offline	Chalk & Duster
10		Resolvent kernel as a series	24/02/23	Offline	Chalk & Duster
11		Neumann series for Volterra equations	27/02/23	Offline	Chalk & Duster
12		Laplace transform method for a difference kernel	28/02/23	Offline	Chalk & Duster
13		Laplace transform method for a difference kernel	01/03/23	Offline	Chalk & Duster
14		Solution of a Volterra integral equation of the first kind	02/03/23	Offline	Chalk & Duster
15		Solution of a Volterra integral equation of the first kind	03/03/23	Offline	Chalk & Duster
16	UNIT-II	Boundary value problems reduced to Fredholm integral equations	06/03/23	Offline	Chalk & Duster
17		Boundary value problems reduced to Fredholm integral equations	07/03/23	Offline	Chalk & Duster
18		Methods of successive approximation	13/03/23	Offline	Chalk & Duster
19		successive substitution to solve Fredholm equations of second kind	14/03/23	Offline	Chalk & Duster
20		successive substitution to solve Fredholm equations of second kind	15/03/23	Offline	Chalk & Duster
21		Iterated kernels	16/03/23	Offline	Chalk & Duster
22		Neumann series for Fredholm equations	17/03/23	Offline	Chalk & Duster
23		Neumann series for Fredholm equations	27/03/23	Offline	Chalk & Duster
24		Fredholm resolvent kernel as a ratio of two series	28/03/23	Offline	Chalk & Duster
25		Fredholm resolvent kernel as a ratio of two series	29/03/23	Offline	Chalk & Duster
26		Fredholm equations with separable kernels	30/03/23	Offline	Chalk & Duster
27		Fredholm equations with separable kernels	31/03/23	Offline	Chalk & Duster

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28		Approximation of a kernel by a separable kernel	03/04/23	Offline	Chalk & Duster
29		Approximation of a kernel by a separable kernel	04/04/23	Offline	Chalk & Duster
30		Fredholm Alternative	05/04/23	Offline	Chalk & Duster
31		Non homogenous Fredholm equations with degenerate kernels	06/04/23	Offline	Chalk & Duster
32		Non homogenous Fredholm equations with degenerate kernels	07/04/23	Offline	Chalk & Duster
33	UNIT-III	Green function	10/04/23	Offline	Chalk & Duster
34		Green function	11/04/23	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	12/04/23	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	13/04/23	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	14/04/23	Offline	Chalk & Duster
38		Basic four properties of the Green function	17/04/23	Offline	Chalk & Duster
39		Alternate procedure for construction of the Green function by using its basic four properties	18/04/23	Offline	Chalk & Duster
40		Alternate procedure for construction of the Green function by using its basic four properties	19/04/23	Offline	Chalk & Duster
41		Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	20/04/23	Offline	Chalk & Duster
42		Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	21/04/23	Offline	Chalk & Duster
43		Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	24/04/23	Offline	Chalk & Duster
44		Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function	25/04/23	Offline	Chalk & Duster
45		Hilbert-Schmidt theory for symmetric kernels	26/04/23	Offline	Chalk & Duster
46		Hilbert-Schmidt theory for symmetric kernels	27/04/23	Offline	Chalk & Duster
47		Hilbert-Schmidt theory for symmetric kernels	28/04/23	Offline	Chalk & Duster
48	UNIT-IV	Motivating problems of calculus of variations	01/05/23	Offline	Chalk & Duster
49		Motivating problems of calculus of variations	02/05/23	Offline	Chalk & Duster
50		Shortest distance	03/05/23	Offline	Chalk & Duster
51		Shortest distance	04/05/23	Offline	Chalk & Duster
52		Minimum surface of resolution	05/05/23	Offline	Chalk & Duster
53		Brachistochrone problem	08/05/23	Offline	Chalk & Duster
54		Isoperimetric problem	09/05/23	Offline	Chalk & Duster
55		Geodesic	10/05/23	Offline	Chalk & Duster
56		Fundamental lemma of calculus of variations	11/05/23	Offline	Chalk & Duster

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57	Euler equation for one dependant function	12/05/23	Offline	Chalk & Duster
58	generalization to 'n' dependant functions and to higher order derivatives	15/05/23	Offline	Chalk & Duster
59	generalization to 'n' dependant functions and to higher order derivatives	16/05/23	Offline	Chalk & Duster
60	Conditional extremum under geometric constraints and under integral constraints	17/05/23	Offline	Chalk & Duster
61	Conditional extremum under geometric constraints and under integral constraints	18/05/23	Offline	Chalk & Duster
62	Conditional extremum under geometric constraints and under integral constraints	19/05/23	Offline	Chalk & Duster
63	Revision	29/05/23	Offline	Chalk & Duster
64	Revision	30/05/23	Offline	Chalk & Duster
65	Revision	31/05/23	Offline	Chalk & Duster
66	Revision	01/06/23	Offline	Chalk & Duster
67	Revision	02/06/23	Offline	Chalk & Duster
68	Revision	05/06/23	Offline	Chalk & Duster
69	Revision	06/06/23	Offline	Chalk & Duster

Text Books:

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

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REMARKS:



Signature of Faculty



Signature of HOD



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Master of Science

No. of Lecture Hours/Week	5/Week	Subject	Integral Equations and Calculus of Variations
Total No. of Lecture Hours		Semester	2nd
Course Code:	16MAT22C3	Session	2018-2019

Staff Name & Designation: Pooja Goel, Assistant Professor

Course Objectives:

1. To Understand the methods to reduce Initial value problems .
2. To solve different integral equations using various techniques.
3. To describe importance of Green's function method for solving boundary value problems.

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Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
Unit I	Linear Integral equations, Some basic identities	1day	Offline class	Chalk &Duster
	Initial value problems reduced to Volterra integral equations	2day	Offline class	Chalk &Duster
	Methods of successive substitution	3day	Offline class	Chalk &Duster
	Methods of successive approximation to solve Volterra integral equations of second kind	4day	Offline class	Chalk &Duster
	Iterated kernels	5day	Offline class	Chalk &Duster
	Neumann series for Volterra equations	6day	Offline class	Chalk &Duster
	Resolvent kernel as a series	7day	Offline class	Chalk &Duster
	Problem based on Resolvent kernel as a series	8day	Offline class	Chalk &Duster
	Problem based on Laplace transform method for a difference kernel	9day	Offline class	Chalk &Duster
	Laplace transform method for a difference kernel	10day	Offline class	Chalk &Duster
	Problem based on Laplace transform method for a difference kernel	11day	Offline class	Chalk &Duster
	Solution of a Volterra integral equation of the first kind	12day	Offline class	Chalk &Duster
	Problem based on Solution of a Volterra integral equation of the first kind	13day	Offline class	Chalk &Duster
	Assignment	14day	Offline class	Chalk &Duster
	Assignment Discussion	15day	Offline class	Chalk &Duster
	Class Test	16day	Offline class	Chalk &Duster
Unit 2	Boundary value problems reduced to Fredholm integral equations	17day	Offline class	Chalk &Duster
	Methods of successive approximation	18day	Offline class	Chalk &Duster
	Successive substitution to solve Fredholm equations of second kind	19day	Offline class	Chalk &Duster
	Iterated kernels	20day	Offline class	Chalk &Duster

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	Neumann series for Fredholm equations	21day	Offline class	Chalk &Duster
	Resolvent kernel as a sum of series.	22day	Offline class	Chalk &Duster
	Fredholm resolvent kernel as a ratio of two series	23day	Offline class	Chalk &Duster
	Fredholm equations with separable kernels.	24day	Offline class	Chalk &Duster
	Approximation of a kernel by a separable kernel,	25day	Offline class	Chalk &Duster
	Fredholm Alternative	26day	Offline class	Chalk &Duster
	Non homogenous Fredholm equations with degenerate kernels	27day	Offline class	Chalk &Duster
	Problem Based on Non homogenous Fredholm equations with degenerate kernels	28day	Offline class	Chalk &Duster
	Assignment	29day	Offline class	Chalk &Duster
	Class Test	30day	Offline class	Chalk &Duster
	Green function	31day	Offline class	Chalk &Duster
	Method of variation of parameters to construct the green function	32day	Offline class	Chalk &Duster
	Basic four properties of the green function	33day	Offline class	Chalk &Duster
	Alternate procedure for construction of the green function by using its basic four properties.	34day	Offline class	Chalk &Duster
	Reduction of a boundary value problem to a Fredholm integral equation with kernel as green function,	35day	Offline class	Chalk &Duster
Unit-3	Hilbert-Schmidt theory for symmetric kernels	36day	Offline class	Chalk &Duster
	Problems based on green function	37day	Offline class	Chalk &Duster
	Problems based on green function	38day	Offline class	Chalk &Duster
	Class Test	39day	Offline class	Chalk &Duster
	Class Test Discussion	40day	Offline class	Chalk &Duster
	Previous year paper Discussion	41day	Offline class	Chalk &Duster
	Assignment	42day	Offline class	Chalk &Duster
	Assignment discussion	43day	Offline class	Chalk &Duster
	Class Test	44day	Offline class	Chalk &Duster

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Unit-4	Motivating problems of calculus of variations,	45day	Offline class	Chalk &Duster
	Shortest distance	46day	Offline class	Chalk &Duster
	Minimum surface of resolution, Brachistochrone problem	47day	Offline class	Chalk &Duster
	Isoperimetric problem	48day	Offline class	Chalk &Duster
	Problems Based on Isoperimetric problem	49day	Offline class	Chalk &Duster
	Fundamental lemma of calculus of variations	50day	Offline class	Chalk &Duster
	Euler equation for one dependent function	51day	Offline class	Chalk &Duster
	Generalization to 'n' dependent functions and to higher order derivatives	52day	Offline class	Chalk &Duster
	Conditional extremum under geometric constraints and under integral constraints.	53day	Offline class	Chalk &Duster
	Geodesic	54day	Offline class	Chalk &Duster
	Problem based on Geodesic	55day	Offline class	Chalk &Duster
	Previous year paper question discussion	56day	Offline class	Chalk &Duster
	Previous year paper question discussion	57day	Offline class	Chalk &Duster
	Assignment	58day	Offline class	Chalk &Duster
	Assignment Discussion	59day	Offline class	Chalk &Duster
	Class Test	60day	Offline class	Chalk &Duster

Text Books:

1. A.J. Jerri, Introduction to Integral Equations with Applications, A WileyInterscience Publication, 1999.
2. R.P. Kanwal, Linear Integral Equations, Theory and Techniques, Academic Press, New York.

Reference Books

1. W.V. Lovitt, Linear Integral Equations, McGraw Hill, New York.
2. F.B. Hilderbrand, Methods of Applied Mathematics, Dover Publications.
3. J.M. Gelfand and S.V. Fomin, Calculus of Variations, Prentice Hall, New Jersey

Course Outcomes:

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

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- CO2 Categorize 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 techniques

REMARKS:


Poja Goel

Signature of Staff In-charge


Dr. Geeta

Signature of HOD



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		Semester	4th
Course Code:	17MAT24C3	Session	2018-19

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.

Topics to be covered

	Date	*Nature of class	Teaching Aid
Vorticity in two dimensions			
Circular and rectilinear vortices	1day	Offline class	Chalk&Duster
Vortex doublet	2day	Offline class	Chalk&Duster
Images,	3day	Offline class	Chalk&Duster
Motion due to vortices,	4day	Offline class	Chalk&Duster
Single infinite rows of vortices	5day	Offline class	Chalk&Duster
Double infinite rows of vortices	6day	Offline class	Chalk&Duster
Karman vortex street	7day	Offline class	Chalk&Duster
Wave motion in a Gas	8day	Offline class	Chalk&Duster
Speed of sound in a gas.	9day	Offline class	Chalk&Duster
Equation of motion of a Gas	10day	Offline class	Chalk&Duster
Subsonic, sonic and supersonic flows	11day	Offline class	Chalk&Duster
Isentropic gas flow, Flow through a nozzle.	12day	Offline class	Chalk&Duster
Assignment	13day	Offline class	Chalk&Duster
Assignment Discussion	14day	Offline class	Chalk&Duster
Class Test	15day	Offline class	Chalk&Duster
Stress components in a real fluid	16day	Offline class	Chalk&Duster
Relation between Cartesian components of stress	17day	Offline class	Chalk&Duster
Translational motion of fluid element	18day	Offline class	Chalk&Duster
Rates of strain	19day	Offline class	Chalk&Duster
Transformation of rates of strains	20day	Offline class	Chalk&Duster
Relation between stresses and rates of strain	21day	Offline class	Chalk&Duster
Co-efficient of viscosity, laminar flow.	22day	Offline class	Chalk&Duster
	23day	Offline class	Chalk&Duster

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Newtonian and non-Newtonian fluids.

Navier-Stoke equations of motion

Equations of motion in cylindrical and spherical polar coordinates

Diffusion of vorticity

Energy dissipation due to viscosity.

Assignment

Class Test

Plane Poiseuille between two parallel plates

Couette flows between two parallel plates

Theory of lubrication

Hagen Poiseuille flow

Steady flow between co-axial circular cylinders

Steady flow between concentric rotating cylinders

Flow through tubes of uniform elliptic cross-section

Flow through tubes of uniform equilateral triangular cross-section

Unsteady flow over a flat plate

Steady flow past a fixed sphere

Flow in convergent and divergent channels.

Assignment

Assignment discussion

Class Test

Dynamical similarity

Inspection analysis

Non-dimensional numbers

Dimensional analysis.

Buckingham π -theorem

24day

Offline class

Chalk&Duster

25day

Offline class

Chalk&Duster

26day

Offline class

Chalk&Duster

27day

Offline class

Chalk&Duster

28day

Offline class

Chalk&Duster

29day

Offline class

Chalk&Duster

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47day

Offline class

Chalk&Duster

48day

Offline class

Chalk&Duster

49day

Offline class

Chalk&Duster

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Application of Buckingham π -theorem	50day	Offline class	Chalk&Duster
Physical importance of non-dimensional Parameter	51day	Offline class	Chalk&Duster
Prandtl boundary layer	52day	Offline class	Chalk&Duster
Boundary layer equation in two-dimensions	53day	Offline class	Chalk&Duster
The boundary layer on a flat plate (Blasius solution).	54day	Offline class	Chalk&Duster
Characteristic boundary layer parameters	55day	Offline class	Chalk&Duster
Karman integral conditions.	56day	Offline class	Chalk&Duster
Karman-Pohlhausen method	57day	Offline class	Chalk&Duster
Assignment	58day	Offline class	Chalk&Duster
Assignment Discussion	59day	Offline class	Chalk&Duster
Class Test	60day	Offline class	Chalk&Duster

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

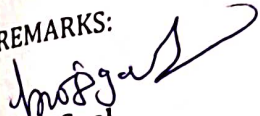
Course Outcomes:

- 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.

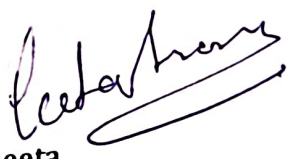
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205 To Get familiar with dimensional analysis and similitude, and understand the common dimensional numbers of fluid dynamics along with their physical and mathematical significance.

REMARKS:


Pooja Goel

Signature of Staff In-charge


Dr. Geeta

Signature of HOD



DPG Degree College, Gurgaon

LESSON- PLAN

PROGRAMME NAME: Master of Science

No. of Lecture Hours/Week	4/Week	Subject	Physics of Laser and Laser Applications
Total No. of Lecture Hours		Semester	4th
Course Code:	21PHY24C1	Session	2020-21

Staff Name & Designation: Dr. Deepika, Assistant Professor

Course Objectives:

- 1.To understand the basic concepts of lasers
- 2.To understand various lasers.
- 3.To have an insight of various non linear optics mechanisms

Deepika

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S.NO.	Unit No.	Topics to be covered	Day	*Nature of class	Teaching Aid
1	Unit I	Laser characteristics	1	Online mode	Google meet
2		Spontaneous and Stimulated Emission	2	Online mode	Google meet
3		Absorption	3	Online mode	Google meet
4		Laser Idea	4	Online mode	Google meet
5		Pumping Schemes	5	Online mode	Google meet
6		Pumping Schemes	6	Online mode	Google meet
7		Properties of Laser Beams :Monochromativity	7	Online mode	Google meet
8		Coherence	8	Online mode	Google meet
9		Directionality, Brightness	9	Online mode	Google meet
10		Radiation Trapping	10	Online mode	Google meet
11		Superradiance,	11	Online mode	Google meet
12		Superfluorescence	12	Online mode	Google meet
13		Amplified Spontaneous Emission	13	Online mode	Google meet
14		Non-radiative delay	14	Online mode	Google meet
15		Revision	15	Online mode	Google meet

16	Unit II	Pumping process	16	Online mode	Google meet
17		Optical pumping and pumping efficiency	17	Online mode	Google meet
18		Optical pumping and pumping efficiency	18	Online mode	Google meet
19		Electrical pumping and pumping efficiency	19	Online mode	Google meet
20		Passive Optical Resonators	20	Online mode	Google meet
21		Rate Equations	21	Online mode	Google meet
22		Rate Equations	22	Online mode	Google meet
23		Four-level Laser	23	Online mode	Google meet
24		Three-level Laser	24	Online mode	Google meet
25		Methods of Q-switching	25	Online mode	Google meet
26		Electro optical shutter	26	Online mode	Google meet
27		Mechanical shutter	27	Online mode	Google meet
28		Acousto - optic Qswitches	28	Online mode	Google meet
29		Mode locking.lifetime and Photoconductivity	29	Online mode	Google meet
30		Revision	30	Online mode	Google meet
31		Principle, working, characteristics and applications of Ruby Laser	31	Online mode	Google meet
32		Principle, working, characteristics and applications of Nd-Yag Laser	32	Online mode	Google meet

33	Unit III	Principle, working, characteristics and applications of N ₂ Laser	33	Online mode	Google meet
34		Principle, working, characteristics and applications of N ₂ Laser	34	Online mode	Google meet
35		Principle, working, characteristics and applications of Dye-Laser	35	Online mode	Google meet
36		Principle, working, characteristics and applications of Dye-Laser	36	Online mode	Google meet
37		Principle, working, characteristics and applications of Semiconductor Laser.	37	Online mode	Google meet
38		Principle, working, characteristics and applications of Semiconductor Laser.	38	Online mode	Google meet
39		Revision	39	Online mode	Google meet
40		Multiphoton photo-electric effects	40	Online mode	Google meet
41		Multiphoton photo-electric effects :Two-photon	41	Online mode	Google meet
42		Three-photon and Multiphoton Processes	42	Online mode	Google meet
43		Raman Scattering	43	Online mode	Google meet
44		Stimulated Raman Effect	44	Online mode	Google meet
45		Introduction to Applications of Lasers: Physics	45	Online mode	Google meet
46		Introduction to Applications of Lasers Chemistry	46	Online mode	Google meet
47		Introduction to Applications of Lasers: Biology	47	Online mode	Google meet
48		Introduction to Applications of Lasers Medicine	48	Online mode	Google meet
49		Introduction to Applications of Lasers: Optical communication,	49	Online mode	Google meet

Unit IV

50	Introduction to Applications of Lasers: Thermonuclear Fusion	50	Online mode	Google meet
51	Introduction to Applications of Lasers: Thermonuclear Fusion	51	Online mode	Google meet
52	Introduction to Applications of Lasers: Thermonuclear Fusion	52	Online mode	Google meet
53	Revision	53	Online mode	Google meet
54	Test	54	Online mode	Google meet
55	Discussion	55	Online mode	Google meet
56	Introduction to Applications of Lasers: Holography	56	Online mode	Google meet
57	Introduction to Applications of Lasers: Holography	57	Online mode	Google meet
58	Introduction to Applications of Lasers: Military	58	Online mode	Google meet
59	Introduction to Applications of Lasers: Military	59	Online mode	Google meet
60	Revision	60	Online mode	Google meet

Text Books: Principles of Lasers by Svelto**Reference Books****Text and Reference Books**

1. Introduction to Atomic and Molecular Spectroscopy by V.K. Jain
2. Svelto : Lasers
3. Yariv Optical Electronics
4. Demtroder: Laser Spectroscopy
5. Letekhov : Non-Linear Spectroscopy
6. Principles of Lasers by Svelto
7. Lasers and Non-linear Optics by B.B. Laud.





DPG Degree College, Gurgaon

LESSON- PLAN

PROGRAMME NAME: Master of Science

No. of Lecture Hours/Week	5/Week	Subject	Statistical Mechanics
Total No. of Lecture Hours		Semester	2nd
Course Code:	22PHY22C1	Session	2022-2023

Staff Name & Designation: Dr. Deepika , Assistant Professor

Course Objectives:

- 1.To understand the basic concepts of statistics.
- 2.To analyze the statistical mechanics law for gases.
- 3.To have an insight of postulates of statistical mechanics.

Deepika

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Sl. No.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Phase space	DAY 1	OFFLINE	CHALK & DUST
2		Ensembles	DAY 2	OFFLINE	CHALK & DUST
3		Liouville theorem	DAY 3	OFFLINE	CHALK & DUST
4		Conservation of extension	DAY 4	OFFLINE	CHALK & DUST
5		Equation of motion, Equal a priori probability	DAY 5	OFFLINE	CHALK & DUST
6		Statistical equilibrium	DAY 6	OFFLINE	CHALK & DUST
7		Microcanonical ensemble	DAY 8	OFFLINE	CHALK & DUST
8		Quantization of phase space	DAY 9	OFFLINE	CHALK & DUST
9		Classical limit	DAY 2	OFFLINE	CHALK & DUST
10		Symmetry of wave functions effect of symmetry on counting	DAY 10	OFFLINE	CHALK & DUST
11		Various distributions using micro canonical ensemble	DAY 11	OFFLINE	CHALK & DUST
12		Entropy of an ideal gas	DAY 12	OFFLINE	CHALK & DUST
13		Equilibrium Conditions, Quasi Static Process, Entropy of an ideal gas using Microcanonical Ensemble,	DAY 13	OFFLINE	CHALK & DUST
14		Gibbs paradox, Sackur-Tetrode equation, Probability distribution and entropy of a two levels system.	DAY 14	OFFLINE	CHALK & DUST
15		Revision	DAY 15	OFFLINE	CHALK & DUST

Dr. R. K.

		Entropy of a system in contact with a reservoir	DAY 16	OFFLINE	CHALK & DUSTER
17		Canonical ensemble	DAY 17	OFFLINE	CHALK & DUSTER
18		Ideal gas in a canonical ensemble	DAY 18	OFFLINE	CHALK & DUSTER
19		Equipartition of energy	DAY 19	OFFLINE	CHALK & DUSTER
20		Third law of thermodynamics	DAY 20	OFFLINE	CHALK & DUSTER
21		Photons, Grand canonical ensemble	DAY 21	OFFLINE	CHALK & DUSTER
22		revision	DAY 22	OFFLINE	CHALK & DUSTER
23	Unit II	Ideal gas in Grand Canonical ensemble	DAY 23	OFFLINE	CHALK & DUSTER
24		Ideal gas in Grand Canonical ensemble	DAY 24	OFFLINE	CHALK & DUSTER
25		Comparison of various ensembles	DAY 25	OFFLINE	CHALK & DUSTER
26		Comparison of various ensembles	DAY 26	OFFLINE	CHALK & DUSTER
27		Quantum distribution using other ensembles	DAY 27	OFFLINE	CHALK & DUSTER
28		Quantum distribution using other ensembles	DAY 28	OFFLINE	CHALK & DUSTER
29		Revision	DAY 29	OFFLINE	CHALK & DUSTER
30		Revision	DAY 30	OFFLINE	CHALK & DUSTER
31		Transition from classical statistical mechanics to quantum statistical mechanics	DAY 31	OFFLINE	CHALK & DUSTER
32		Indistinguishability and quantum statistics	DAY 32	OFFLINE	CHALK & DUSTER

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Unit III

33	Identical particles	DAY 33	OFFLINE	CHALK & DUSTER
34	Symmetry requirements	DAY 34	OFFLINE	CHALK & DUSTER
35	Bose Einstein statistics	DAY 35	OFFLINE	CHALK & DUSTER
36	Fermi Dirac statistics	DAY 36	OFFLINE	CHALK & DUSTER
37	Maxwell Boltzmann statistics	DAY 37	OFFLINE	CHALK & DUSTER
38	Bose Einstein Condensation	DAY 38	OFFLINE	CHALK & DUSTER
39	Thermal properties of B.E. gas	DAY 39	OFFLINE	CHALK & DUSTER
40	liquid Helium	DAY 40	OFFLINE	CHALK & DUSTER
41	Energy and pressure of F-D gas	DAY 41	OFFLINE	CHALK & DUSTER
42	Electrons in metals	DAY 42	OFFLINE	CHALK & DUSTER
43	Thermionic Emission	DAY 43	OFFLINE	CHALK & DUSTER
44	Saha Theory of Thermal Ionization	DAY 44	OFFLINE	CHALK & DUSTER
45	Revision	DAY 45	OFFLINE	CHALK & DUSTER
46	Cluster expansion for a classical gas	DAY 46	OFFLINE	CHALK & DUSTER
47	Virial equation of state	DAY 47	OFFLINE	CHALK & DUSTER
48	Van der Waals gas	DAY 48	OFFLINE	CHALK & DUSTER
49	Phase transition of second kind	DAY 49	OFFLINE	CHALK & DUSTER

Unit IV

	Ising Model	DAY 50	OFFLIN E	CHALK & DUSTER
51	Bragg Williams Approximation	DAY 51	OFFLIN E	CHALK & DUSTER
52	Ising Model in one and two dimensions	DAY 52	OFFLIN E	CHALK & DUSTER
53	Fluctuations in ensembles	DAY 53	OFFLIN E	CHALK & DUSTER
54	Energy fluctuation in quantum statistics	DAY 54	OFFLIN E	CHALK & DUSTER
55	Metallization	DAY 55	OFFLIN E	CHALK & DUSTER
56	Concentration fluctuation in quantum statistics	DAY 56	OFFLIN E	CHALK & DUSTER
57	One dimensional random walk	DAY 57	OFFLIN E	CHALK & DUSTER
58	Brownian motion	DAY 58	OFFLIN E	CHALK & DUSTER
59	Brownian motion	DAY 59	OFFLIN E	CHALK & DUSTER
60	Revision	DAY 60	OFFLIN E	CHALK & DUSTER

Text Books: Statistical Mechanics by Satyaprakash

Reference Books

- [1] Statistical Mechanics by K. Huang
- [2] Statistical Mechanics by B.K. Aggarwal and M. Eisner
- [3] Statistical Mechanics by R.K. Patharia

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

- 1. By the end of this course students will be acquainted with basics of statistical mechanics
- 2. Students of the course will be able to understand statistics laws.
- 3. Students will be able to understand various ensembles.

REMARKS

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Signature of Staff in-charge

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Signature of HOD



D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: Bachelor of Computer Application

No. of Lecture Hours/Week	5	Subject	Logical organization of computer
Total No. of Lecture Hours	60	Semester	2nd
Course Code:	BCA 107	Session	2022-23

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

Course Objectives:

- 1. Discuss the basic concepts and structure of computers.**
- 2. Understand concepts of register transfer logic and arithmetic operations.**
- 3. Explain different types of addressing modes and memory organization.**
- 4. Learn the different types of serial communication techniques.**
- 5. Summarize the Instruction execution stages.**

Navita

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit-1	Sequential Logic: Introduction	18/1/23	Offline	Chalk & duster
2		Sequential Logic: Characteristics	19/1/23	Offline	Chalk & duster
3		Flip-Flops	20/1/23	Offline	Chalk & duster
4		Clocked RS,	13/2/23	Offline	Chalk & duster
5		D type	14/2/23	Offline	Chalk & duster
6		JK flip flop	15/2/23	Offline	Chalk & duster
7		T type	16/2/23	Offline	Chalk & duster
8		Master-Slave flip-flops.	17/2/23	Offline	Chalk & duster
9		State table	20/2/23	Offline	Chalk & duster
10		state diagram	21/2/23	Offline	PPT Presentation
11		state equations.	13/2/23	Offline	Chalk & duster
12		Flip-flop excitation tables	14/2/23	Offline	Chalk & duster
13		Revision	15/2/23	Offline	Chalk & duster
14		Revision	16/2/23	Offline	Chalk & duster
15		Presentation	17/2/23	Offline	Chalk & duster
16		Test	18/2/23	Offline	Chalk & duster

17	Unit-2	Sequential Circuits: Designing registers	20/2/23	Offline	Chalk & duster
18		Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO)	21/2/23	Offline	Chalk & duster
19		Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers	22/2/23	Offline	Chalk & duster
20		Designing counters – Asynchronous	23/2/23	Offline	Chalk & duster
21		Synchronous Binary Counters	24/2/23	Offline	Chalk & duster
22		Modulo-N Counter	27/2/23	Offline	Chalk & duster
23		Up-Down Counters	28/2/23	Offline	Chalk & duster
24		Revision	1/3/23	Offline	Chalk & duster
25		Presentation	2/3/23	Offline	Chalk & duster
26		Test	3/3/23	Offline	Chalk & duster
27	Unit 3	M e m o r y	6/3/23	Offline	Chalk & duster
28		M e m o r y P a r a m e t e r s	13/3/23	Offline	Chalk & duster
29		S e m i c o n d u c t o r R A M	14/3/23	Offline	Chalk & duster

Namit

12/8/23

30	Unit 4	R O M	15/3/23	Offline	Chalk & duster
31		M a g n e t i c m e m o r y	16/3/23	Offline	Chalk & duster
32		Optical Storage devices	17/3/23	Offline	Chalk & duster
33		Flash memory,	27/3/23	Offline	Chalk & duster
34		I/O Devices	28/3/23	Offline	Chalk & duster
35		I/O Devices and their controllers	29/3/23	Offline	Chalk & duster
36		Instruction Design & I/O Organization: Machine instruction,	30/3/23	Offline	PPT Presentation
37		Instruction set selection, Instruction cycle,	3/4/23	Offline	PPT Presentation
38		Instruction Format and Addressing Modes.	4/4/23	Offline	Chalk & duster
39		I/O Interface, Interrupt structure,	5/4/23	Offline	*Chalk & duster
40		Program-controlled, Interrupt-controlled	6/4/23	Offline	Chalk & duster
41		DMA transfer, I/O Channels,	7/4/23	Offline	Chalk & duster
42		IOP	10/4/23	Offline	Chalk & duster

Nand

10.

Text Books:

1. Gill, Nasib Singh and Dixit J.B.: Digital Design and Computer Organisation, University Science Press (Laxmi Publications), New Delhi.
2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd

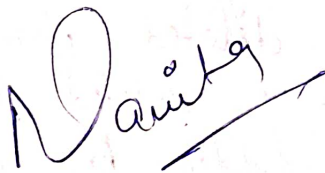
Reference Books

1. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.
2. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
3. Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill

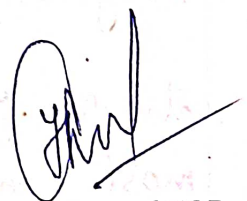
Course Out comes :At the end of the course,

By the end of the course the students will be able to:

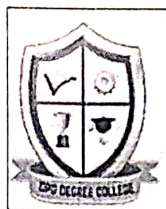
- CO1) Understand the theory and architecture of central processing unit.
- CO2) Analyze some of the design issues in terms of speed, technology, cost, performance.
- CO3) Design a simple CPU with applying the theory concepts.
- CO4) Use appropriate tools to design verify and test the CPU architecture..



Signature of Faculty



Signature of HOD



D.P.G. Degree College, Gurgaon

LECTURE- PLAN

COURSE NAME: Bachelor's of Computer Applications

No. of Lecture Hours/Week	4	Subject	Web Designing
Total No. of Lecture Hours	56	Semester	4 th
Course Code:	BCA-206	Session	2022-23

Staff Name & Designation: MS. Preeti Kataria(Assist. Professor)

Course Objectives:

Course Outcomes:

By the end of the course the students will be able to:

CO1: To learn and understand, analyze and apply the role of languages like HTML, DHTML, CSS, javascript, in the workings of the web and web applications.

CO2: To learn and understand, analyze and create web pages using HTML, DHTML and Cascading Styles Sheets.

CO3: To learn and understand, analyze and build dynamic web pages using JavaScript and VB Script (client side programming).

CO4: To learn and understand, analyze and build interactive web applications.

Preeti Kataria

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit-1	Introduction to Internet and World Wide Web	18/1/23	Offline	Chalk & duster
2		Evolution and History of World Wide Web	19/1/23	Offline	Chalk & duster
3		Basic features of www	20/1/23	Offline	Chalk & duster
4		Web Browsers its working	13/2/23	Offline	Chalk & duster
5		Web Servers its working ,types	14/2/23	Offline	Chalk & duster
6		http ,features , architecture	15/2/23	Offline	Chalk & duster
7		HTTP version	16/2/23	Offline	Chalk & duster
8		Overview of TCP/IP Protocol	17/2/23	Offline	Chalk & duster
9		TCP/IP protocol working and its services	20/2/23	Offline	Chalk & duster
10		URLs and its elements	21/2/23	Offline	PPT Presentation
11		Searching and Web-Casting Techniques	13/2/23	Offline	Chalk & duster
12		Webcasting benefits , uses of webcasts its working	14/2/23	Offline	Chalk & duster
13		Search Engines ,how does it works, rank results	15/2/23	Offline	Chalk & duster

Rishi Babbar

14		Search Tools	16/2/23	Offline	Chalk & duster
15		Assignment	17/2/23	Offline	Chalk & duster
16		Class Test	18/2/23	Offline	Chalk & duster
17	Unit-2	Web Publishing: Hosting your Site	20/2/23	Offline	Chalk & duster
18		Internet Service Provider, purpose of ISP provider, Example of ISP	21/2/23	Offline	Chalk & duster
19		Web terminologies,	22/2/23	Offline	Chalk & duster
20		Phases of Planning and designing your Web Site	23/2/23	Offline	Chalk & duster
21		Steps for developing your Site	24/2/23	Offline	Chalk & duster
22		Choosing the contents, Home Page , Domain Names,	27/2/23	Offline	Chalk & duster
23		Creating a Website and the Markup Languages (HTML, DHTML)	28/2/23	Offline	Chalk & duster
24		Front page views, Adding pictures, Links, Backgrounds, Relating Front Page to DHTML	1/3/23	Offline	Chalk & duster
25		Assignment	2/3/23	Offline	Chalk & duster
26		Class Test	3/3/23	Offline	Chalk & duster
27	Unit 3	Web Development Introduction: Introduction to HTML	6/3/23	Offline	Chalk & duster
28		Hypertext and HTML	13/3/23	Offline	Chalk & duster
29		HTML Document Features ,HTML	14/3/23	Offline	Chalk & duster

Pruthi/Chen

47	DHTML: Dynamic HTML, Features of DHTML	17/4/23	Offline	Chalk & duster
48	CSSP(cascading style sheet positioning)	18/4/23		
49	JSSS(JavaScript assisted style sheet)	19/4/23		
50	Layers of Netscape	20/4/23		
51	The ID attributes	21/4/23		
52	DHTML events.	24/4/23		
53	DHTML events	25/4/23		
54	Revision and Doubts	26/4/23		
55	Assignment	27/4/23		
56	Class Test	28/4/23		

Text Books:

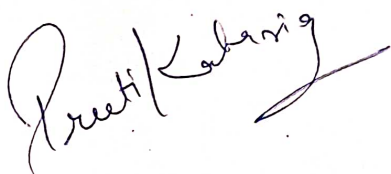
1. Raj Kamal, "Internet and Web Technologies", Tata McGraw-Hill.
2. Ramesh Bangia, "Multimedia and Web Technology", Firewall Media.
3. Thomas A. Powell, "Web Design: The Complete Reference",

Reference Books

4. Tata McGrawHill 4. Wendy Willard, "HTML Beginners Guide", Tata McGraw-Hill.
5. Deitel and Goldberg, "Internet and World Wide Web, How to Program", PHI.

Course OutComes : At the end of the course,

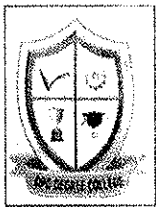
1. Understand, analyze and create web pages using HTML, DHTML and Cascading Styles Sheets.
2. Understand, analyze and build dynamic web pages using JavaScript and VB Script (client side programming).
3. Understand, analyze and build interactive web applications.
4. Understand, analyze and create XML documents and XML Schema.



Signature of Faculty



Signature of HOD



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Masters of Commerce

No. of Lecture Hours/Week	5/Week	Subject	Basics of Economics
Total No. of Lecture Hours		Semester	2nd
Course Code:	16ECO220E	Session	2019-20

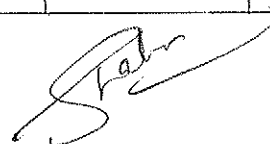
Staff Name & Designation: Dr. Shalini Arora, Associate Professor

Course Objectives:

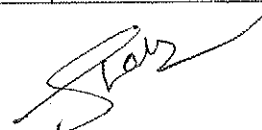
Course Objectives:

- 1.To familiarize the basic concepts of microeconomics.
2. To make them understand the concepts of demand and supply.
3. To make them understand the production and cost concepts.
- 4.To help them to understand the concepts of utility.

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Define Economy and its various definitions.	Day 1	Online class	ICT through Google Meet
2		Central Problems of Economy.	Day 2	Online class	ICT through Google Meet
3		Meaning of Production Possibility Curve and its assumptions with the help of table and diagram	Day 3	Online class	ICT through Google Meet
4		Concept of Opportunity Cost and marginal opportunity cost with example.	Day 4	Online class	ICT through Google Meet
5		Why PPC is concave to origin.	Day 5	Online class	ICT through Google Meet
6		Shifting of PPC.	Day 6	Online class	ICT through Google Meet
7		Revision of complete chapter.	Day 7	Online class	Oral test
8		Meaning of Utility and types of utility with examples	Day 8	Online class	ICT through Google Meet
9	Unit II	Total Utility, Marginal Utility and Average Utility.	Day 9	Online class	ICT through Google Meet
10		Law of Diminishing Marginal Utility with example.	Day 10	Online class	ICT through Google Meet
11		Table and diagram of D.M.U.	Day 11	Online class	ICT through Google Meet
12		Limitations of Law of D.M.U.	Day 12	Online class	ICT through Google Meet
13		Law of Equi Marginal Utility.	Day 13	Online class	ICT through Google Meet
14		Assumptions and Table of Law of E.M.U.	Day 14	Online class	ICT through Google Meet



15	Diagrams of Law of E.M.U.	Day 15	Online class	ICT through Google Meet
16	Oral test of D.M.U and E.M.U.	Day 16	Online class	Oral online test through MCQ's
17	Discussion of exercise questions.	Day 17	Online class	Oral discussion
18	Meaning of Demand.	Day 18	Online class	ICT through Google Meet
19	Why does demand curve downward sloping?	Day 19	Online class	ICT through Google Meet
20	Continuity of previous topic.	Day 20	Online class	ICT through Google Meet
21	Expansion and contraction of demand, Increase and decrease in demand	Day 21	Online class	ICT through Google Meet
22	Elasticity of Demand.	Day 22	Online class	ICT through Google Meet
23	Percentage Method of Elasticity of Demand.	Day 23	Online class	ICT through Google Meet
24	Total Expenditure Method of elasticity of demand.	Day 24	Online class	ICT through Google Meet
25	Geometric method and Arc Method.	Day 25	Online class	ICT through Google Meet
26	Revenue Method.	Day 26	Online class	ICT through Google Meet
27	Factors effecting elasticity of demand.	Day 27	Online class	Through Questioning method
28	Repetition of Revenue method.	Day 28	Online class	ICT through Google Meet
29	Revision.	Day 29	Online class	Presentation
30	Written test	Day 30	Online class	Through Assignment



31	Meaning of Cost and types of cost.	Day 31	Online class	ICT through Google Meet
32	TC, AC and MC with table and diagrams.	Day 32	Online class	ICT through Google Meet
33	Relationship between AC and MC.	Day 33	Online class	ICT through Google Meet
34	Numerical on AC and MC.	Day 34	Online class	ICT through Google Meet
35	Relationship between TC, AC and MC.	Day 35	Online class	ICT through Google Meet
36	Why AC curve is U-shaped.	Day 36	Online class	ICT through Google Meet
37	FC, VC, AFC and AVC with table with diagrams	Day 37	Online class	ICT through Google Meet
38	Relationship between all curves.	Day 38	Online class	ICT through Google Meet
39	Numerical on various costs.	Day 39	Online class	ICT through Google Meet
40	Traditional Theory of cost	Day 40	Online class	ICT through Google Meet
41	Traditional Theory of cost	Day 41	Online class	ICT through Google Meet
42	Modern Theory of cost	Day 42	Online class	ICT through Google Meet
43	Meaning of Revenue.	Day 43	Online class	ICT through Google Meet
44	Types of Revenue with table and diagram.	Day 44	Online class	ICT through Google Meet
45	Revenue curves in various markets and revision.	Day 45	Online class	ICT through Google Meet

Text Books: Business Economics: T.R.Jain, O.P. Khanna, V.K. Publications

Reference Books

1. Modern Micro Economics: H.L. Ahuja



2. Modern Microeconomics: A. Koutsoyiannis

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

1. To understand the concepts of demand, supply and apply these in practical life.
2. To understand the concepts of cost and production and apply in business applications.
3. To understand the concept of Marginal utility and apply in your practical life.

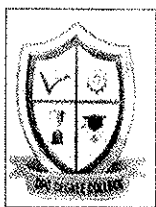
REMARKS:



Signature of Staff In-charge



Signature of HOD



D.P.G. Degree College, Gurgaon

LESSON- PLAN

COURSE NAME: Bachelor of Commerce

No. of Lecture Hours/Week	5/Week	Subject	Business Economics
Total No. of Lecture Hours		Semester	2nd
Course Code:	2.03	Session	2020-21

Staff Name & Designation: Dr. Shalini Arora, Associate Professor

Course Objectives:

Course Objectives:

- 1.To familiarize the basic concepts of microeconomics.
2. To make them understand the concepts of demand and supply.
3. To make them understand the production and cost concepts.
- 4.To help students to understand the price and output decisions under various market conditions.

Shalini

S.NO.	Unit No.	Topics to be covered	Date	*Nature of class	Teaching Aid
1	Unit I	Features of Perfect competition and price determination under perfect competition	Day 1	Online class	ICT through Google Meet
2		Effect of changes in demand and supply on equilibrium price	Day 2	Online class	ICT through Google Meet
3		Importance of time element in the determination of value	Day 3	Online class	ICT through Google Meet
4		Price determination in short period and long period	Day 4	Online class	ICT through Google Meet
5		Difference between market price and normal price	Day 5	Online class	ICT through Google Meet
6		TR, TC and MR, MC Approach	Day 6	Online class	ICT through Google Meet
7		Determination of short run equilibrium of and long run equilibrium of firm	Day 7	Online class	ICT through Google Meet
8		Short run and long run equilibrium of industry	Day 8	Online class	ICT through Google Meet
9		Long run equilibrium of industry and law of cost	Day 9	Online class	ICT through Google Meet
10		Supply curve of firm and industry	Day 10	Online class	ICT through Google Meet
11		Long run supply curve	Day 11	Online class	ICT through Google Meet
12		Edgeworth box diagram and price ceiling	Day 12	Online class	ICT through Google Meet
13		Short run and long run equilibrium under monopoly	Day 13	Online class	ICT through Google Meet
14		Monopoly equilibrium and law of cost	Day 14	Online class	ICT through Google Meet



15	Unit II	Monopoly power and multiplant monopoly	Day 15	Online class	ICT through Google Meet
16		Price discrimination	Day 16	Online class	ICT through Google Meet
17		Revision of above topics	Day 17	Online class	ICT through Google Meet
18		Group equilibrium under monopolistic competition	Day 18	Online class	ICT through Google Meet
19		Selling cost and excess capacity	Day 19	Online class	ICT through Google Meet
20		Doubts clearing of above topics	Day 20	Online class	ICT through Google Meet
21		Oligopoly and its features	Day 21	Online class	ICT through Google Meet
22		Cournot's model of oligopoly	Day 22	Online class	ICT through Google Meet
23		Cournot's model of oligopoly	Day 23	Online class	ICT through Google Meet
24		Bertrand's model of oligopoly	Day 24	Online class	ICT through Google Meet
25		Edgeworth's model of oligopoly	Day 25	Online class	ICT through Google Meet
26		Kinked demand curve	Day 26	Online class	ICT through Google Meet
27		Price leadership model	Day 27	Online class	ICT through Google Meet
28		Doubts clearing of above topics	Day 28	Online class	ICT through Google Meet
29		Basics concepts of Factor pricing	Day 29	Online class	ICT through Google Meet
30		Basic concepts of factor pricing	Day 30	Online class	ICT through Google Meet
31		Marginal productivity Theory of Distribution	Day 31	Online class	ICT through Google Meet

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32	Explanation of above theory with the help of diagrams	Day 32	Online class	ICT through Google Meet
33	Explanation of above theory with the help of diagrams	Day 33	Online class	ICT through Google Meet
34	Modern theory of factor pricing	Day 34	Online class	ICT through Google Meet
35	Modern theory of factor pricing	Day 35	Online class	ICT through Google Meet
36	Introduction of wages and factors determining real wages	Day 36	Online class	ICT through Google Meet
37	Marginal productivity theory of wages	Day 37	Online class	ICT through Google Meet
38	Marginal productivity theory of wages	Day 38	Online class	ICT through Google Meet
39	Wage determination under perfect competition	Day 39	Online class	ICT through Google Meet
40	Determination of equilibrium wage in short period	Day 40	Online class	ICT through Google Meet
41	Determination of equilibrium wage in long period	Day 41	Online class	ICT through Google Meet
42	Wage determination under monopoly	Day 42	Online class	ICT through Google Meet
43	When the monopolist get the wages raised?	Day 43	Online class	ICT through Google Meet
44	Monopsony in factor market and perfect competition in product market	Day 44	Online class	ICT through Google Meet
45	Monopsony in factor market and monopoly in product market	Day 45	Online class	ICT through Google Meet
46	Meaning and types of rent	Day 46	Online class	ICT through Google Meet
47	Difference between economic and contract rent	Day 47	Online class	ICT through Google Meet
48	Ricardian Theory of rent	Day 48	Online class	ICT through Google Meet

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49	Ricardian Theory of rent	Day 49	Online class	ICT through Google Meet
50	Modern theory of rent	Day 50	Online class	ICT through Google Meet
51	Modern theory of rent	Day 51	Online class	ICT through Google Meet
52	Quasi rent	Day 52	Online class	ICT through Google Meet
53	Revision of Rent chapter	Day 53	Online class	ICT through Google Meet
54	Introduction and types of Interest	Day 54	Online class	ICT through Google Meet
55	Classical theory of interest	Day 55	Online class	ICT through Google Meet
56	Loanable funds theory of interest	Day 56	Online class	ICT through Google Meet
57	Liquidity preference theory of interest	Day 57	Online class	ICT through Google Meet
58	Modern theory of interest	Day 58	Online class	ICT through Google Meet
59	Modern theory of interest	Day 59	Online class	ICT through Google Meet
60	Revision	Day 60	Online class	ICT through Google Meet

Text Books: Business Economics , T.R. Jain and O.P. Khanna,V.K. Publications.

Reference Books

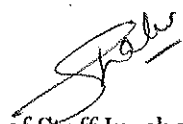
1. Modern Micro Economics: H.L.Ahuja
2. Principles of Micro Economics: N. Gregory Mankiw.
3. Modern Microeconomics:A.Koutsoyiannis


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

1. To understand the concepts of demand, supply and apply these in practical life.
2. To understand the concepts of cost and production and apply in business applications.
3. To understand the pricing and output decision in various markets.
4. To understand the concept of Marginal utility and apply in your practical life.



REMARKS:


Signature of Staff In-charge


Signature of HOD