CERTIFICATE COURSE IN ARTS/SCIENCE

Programme: *Certificate Course in Arts/Science*	Year: I	Semester: I Paper-I
Subject: Geography		
Course Code: GEOG101T	Course Title: Physical Geography	

Course Outcomes:

1. Understand the origin of Universe, Earth and Solar system.
2. Learn about the Continents and Oceans.
3. Plate tectonics and related movements.
4. Origin and development of different Landforms on the Earth.
5. Earth's climate and factors influencing it.
6. Understand formation of Soil, types, profiles and biogeography.
7. Ocean systems of the world.

Credits: 04	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks: 33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Meaning, Scope and Branches of Physical Geography, Origin of Universe, Solar system and Earth. Geological Time Scale, Theories of Laplace, Chamberlin, James Jeans, Jeffreys, and Hoyle & Lyttleton, Interior of the earth, Rocks: origin and classification.	12
Unit II	Origin of continents and ocean basins: Continental drift and convectional current theories, Plate Tectonics, Isostasy, Earth movements, Endogenetic forces, landforms: Mountains, Plateau and Plains, Gradational processes, Weathering and Erosion, normal cycle of erosion, Arid, Glacial, Marine and Karst topographies, Vulcanicity and Earthquakes.	15
Unit III	Soil as a basic component of environment, Soil profile (Soil horizon): Characteristics and Significance, Processes and factors of soil formation. Biodiversity and Biosphere, Biotic succession, Biomes and their types. Biodiversity conservation.	10
Unit IV	Composition and structure of atmosphere, Insolation, Vertical and Horizontal Distribution of temperature, Pressure and pressure belts, Winds: Planetary, Periodic and Local. Humidity, Clouds and Precipitation, Cyclones and Anticyclones.	14
Unit V	Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents, Tides and Coral reefs.	09

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Suggested Reading:

1. Barry, R.G. and Chorley, R.J. (1998). Atmosphere, Weather and Climate. Routledge, London.
2. Bryant, H. Richard (2001). Physical Geography Made Simple. Rupa and Co., New Delhi.
3. Bunnett, R.B. (2003). Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.
4. Garrison T (1998). Oceanography. Wordsworth Cp, Bedmont.
5. Lake, P. (1979). Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.
6. Monkhouse, F.J (1979). Physical Geography, Methuen, London.
7. Singh, S. (2003). Physical Geography (English and Hindi Editions) Prayag Pustak Bhawan, Allahabad.
8. Singh, M.B. (2001) Bhoutik Bhoogol, Tara Book Agency, Varanasi.
9. Strahler, A.N. and Strahler A.M. (1992). Modern Physical Geography, John Wiley and Sons, New York.
10. Wooldridge, S.W. and Morgan, R.S. (1959). The Physical Basis of Geography: An Outline of Geomorphology.Longman, London.

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/cec21_hs03/preview
https://onlinecourses.swayam2.ac.in/nos20_sc25/preview

This course can be opted as an elective by the students: Open to all

Suggested Continuous Evaluation (25 Marks): Assignment / Class Test / Quiz (MCQ) / Seminar/ Presentations

CERTIFICATE COURSE IN ARTS/SCIENCE

Programme: *Certificate Course in Arts/Science*	**Year: I**	**Semester: I Paper-II**
Subject: Geography		
Course Code: GEOG102P	**Course Title: Basic Cartographic Techniques and Map Readings**	

Course Outcomes:

1. Learn basics of Cartography and Map making.
2. Understand and interpret toposheets and weather maps.
3. Draw maps with the help of toposheets.
4. Learn function and use of meteorological instruments.

Credits: 2	**Core Compulsory**
Max. Marks: 25+75 (75=60+10+5 Lab exercise-+Record File+Viva-Voce)	**Min. Passing Marks:33**

Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P:0-0-2

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalay
Landhaura, Distt -Haridwar Uttarakha

Course Outcomes:

1. Learn Meaning, Concept, Nature, Scope and development of Human Geography.
2. Understand Cultural Changes in and around the world.
3. Learn about the different races, religions, tribes, their culture and cultural development.

Credits: 04	**Core Compulsory**
Max. Marks: 25+75	**Min. Passing Marks:33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Definition and scope of Human Geography; human versus physical geography; branches of Human Geography; Development of Human Geography; Contributions of German and French Geographers. Contribution of Indian Geographers.	12
Unit II	Schools: Determinism, possibilism, welfare or humanistic and positivism; Approaches: ecological, landscape, locational, welfare and humanistic.	12
Unit III	Elements of environment; physical and human environment; constraints and opportunities of the environment; impact of environment on man; impact of man on environment; environmental problems; pollution, Hazards, and climate change.	12
Unit IV	Evolution of man: Classification of races, Characteristics of races and their world distribution. Human adaptation to the environment: Eskimo, Bushman and Masai. Tribes of India: habitat, economy and culture with special reference to Naga, Bhil, Santhal, Gaddi, Bhotia, Jounsari and Tharu tribes.	14
Unit V	Human Settlements: Origin, types and patterns (Rural and Urban) characteristics, House types and their distribution with special reference to India.	10

Suggested Reading:

1. Singh, L.R. (2005). Fundamentals of Human Geography. Sharda Pustak Bhawan, Allahabad.
2. DeBlij, H.J. Human Geography: Culture, Society and Space. John Wiley, New York.
3. Haggett, P. (2004). Geography: A Modern Synthesis. Harper & Row, New York
4. Hussain, M. (1994): Human Geography. Rawat Publication, Jaipur.
5. Norton W. (1995). Human Geography. Oxford University Press, New York.
6. Singh, K. N. & Singh J. (2001). Manviya Bhoogol. Gyanodaya Prakashan, Gorakhpur
7. Kaushik, S.D.& Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Pub. Meerut

Suggested equivalent online courses:

Courses on Swayam / MOOCs https://onlinecourses.swayam2.ac.in/nou20_hs18/preview

This course can be opted as an elective by the students: Open to all.

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/ Presentations

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN ARTS/SCIENCE		
Programme: *Certificate Course in Arts/Science*	**Year: I**	**Semester: II Paper-II**
Subject: Geography		
Course Code: GEOG202P	**Course Title: Surveying Techniques**	

Course Outcomes:

1. Understand importance of Surveying.
2. Learn to use Different Surveying instruments including GPS.

Credits: 2	**Core Compulsory**
Max. Marks: Max. Marks: 25+75 (75=60+10+5 Lab exercise-+Record File+Viva-Voce)	**Min. Passing Marks:33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-2

Unit	Topic	No. of Lectures
Unit I	Fundamentals of Surveying: Objects, Primary divisions of survey, Classification.	4
Unit II	Plane Table Surveying: Radiation, Intersection, Close Traverse, Open Traverse, Resection by two point and three-point problems.	18
Unit III	Surveying by Prismatic Compass: Close Traverse, Open Traverse, and Correction of bearing.	18
Unit IV	Measurement of height and depth by Indian Pattern Clinometer.	10
Unit V	Use and Applications of GPS in surveying	10

Suggested Reading:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985). Maps and Diagrams. Methuen, London.
2. Raisz, E. (1962). General Cartography. John Wiley & Sons, New York.
3. Sharma, J.P. (2001). Prayogik Bhoogaol. Rastogi Pub, Meerut.
4. Singh, R.L. & Singh, Rana P.B. (1993) Elements of Practical Geography (Hindi & English Editions), Kalyani Publishers, New Delhi.
5. Singh, L. R. (2006). Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.

Suggested equivalent online courses:

This course can be opted as an elective by the students: Open to all.

Suggested Continuous Evaluation (25 Marks): Assignment / Test / Quiz (MCQ) / Seminar/Present

DIPLOMA IN ARTS/SCIENCE		
Programme: *Diploma in Arts/Science*	**Year: II**	**Semester: III Paper-I**

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

DETAILED SYLLABUS

B.A. I

B.A. I Semester I Home Science

Food and Nutrition (Theory)

Programme Class: Certificate	Year: I	Semester: I
Subject: Home Science		
Course Code: HSC/UG001 Major Core	Course Title: **Food and Nutrition (Theory)**	

Course Outcomes:

The student at the completion of the course will be able to:

- Gain Knowledge of Nutrition.
- Students will get familiar with different methods of cooking
- Acquaint students with practical knowledge of nutrient rich foods.

Credits:4	**Core Compulsory / Elective**
Max. Marks: 25-75	Min. Passing Marks:
Total No. of Lectures-60	

Units	Topic	No. of Lectures
I	Food and Nutrition Food-meaning, Classification and function of Food. Basic Food Groups. Energy- Factors affecting total energy requirements of the body. Balanced Diet- Definition and Factors affecting Balanced diet.	20
II	Nutrition-Concept of Nutrition Nutrients-Macro and Micro,(Protein, Carbohydrate, Fat, Vitamins, Minerals, Water) sources, Functions, Requirements, Digestion, absorption and deficiency diseases.	20
III	Cooking Methods - Different Methods of Cooking, Advantages and Disadvantages. Preservation of Nutrients while Cooking.	12
IV	Traditional methods of enhancing nutritional value of foods-Germination, Fermentation, Food Synergy etc.	8

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I Semester I Home Science
Cooking skills and Healthy Recipe Development (Practical)

Programme/Class: Certificate	Year: 1	Semester:1
Subject: Home Science		
Course Code: HSC/UG002	Course Title: Cooking skills and healthy recipe development(Practical)	

Course Outcomes:

- Students will get familiar with different methods of cooking
- Acquaint students with practical knowledge of nutrient rich foods

Credits:2	Core Compulsory / Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lab Periods-30(60 hours)

Unit	Topic	No. of Lab periods /Lectures
I	Basic Cooking skills - Weighing of raw materials - Preparing of different food items - Different styles of cutting fruits and vegetables - Salad Decoration/Dressing	15/30
II	Preparation of nutrient rich dishes - Protein rich dish - Carbohydrate rich dish - Fat rich dish - Vitamins rich dish - Minerals Rich Dish - Fiber Rich Dish	15/30

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I

B.A. I Semester I Home Science

Human Development (Theory)

Programme Class: Certificate	Year: I	Semester: I

Subject: Home Science

Course Code: HSC UG **Minor Elective**	Course Title: **Human Development (Theory)**

Course Outcomes:

The student at the completion of the course will be able to:

- Explain the need and importance of studying human growth and development across lifespan
- Identify the biological and environmental factors affecting human development
- Learn about the characteristics, needs and developmental tasks of infancy & early childhood years

Credits:4	**Minor / Elective**
Max. Marks: 25–75	Min. Passing Marks:
Total No. of Lectures-60	

Units	Topic	No. of Lectures
I	Introduction to Human Development • Concept, Definition and need to study HumanDevelopment • Domains, Stages and contexts of development. Principles of Growth and Development. Determinants of Development-Heredity and Environment.	15
II	Prenatal Development and Birth Process: • Conception, Pregnancy and Childbirth. Stages of birth • Types of delivery (Natural, C-section, breech, home vs. assisted delivery) • Physical appearance and capacities of the	15

I.Q.A.C. Coordinator

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I

B.A. I Semester I Home Science

Food Processing and Preservation (Theory)

Programme Class: Certificate	Year: I	Semester: I

Subject: Home Science

Course Code: HSC/UG Vocational Minor	Course Title: **Food Processing and Preservation(Theory)**

Course Outcomes:

The student at the completion of the course will be able to:

- Students will get familiar with various methods of Food Processing and Food Preservation.
- Development of the skill of preparation of various food items like jams,jellies and pickles.

Credits:3	**Vocational/Minor**
Max. Marks: 25+75	Min. Passing Marks:
Total No. of Lectures-60	

Units	Topic	No. of Lectures
I	Introduction: a. Preservation of fruits and vegetables b. Reasons for the deterioration of fruits and vegetables c. Common methods of preservation of fruits and vegetables.	
II	Canning of fruits and vegetables.	
III	Preparation of Jam, Jelly, Murabba,Toffee,Fruit juices, Pickle, Chutney and Ketchup.	
IV	a. Drying of fruits and vegetables. b. Preservation and storage at a small level.	

Chaman Lal Mahavidhyalaya IQAC Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I Semester 2 Home Science

Introduction to Clothing & Textiles (Theory)

Programme/Class: Certificate	Year: 1	Semester:2
Subject: Home Science		
Course Code: **HSC/UG003** **Major/Core**	Course Title: **Introduction to Clothing & Textiles (Theory)**	

Course Outcomes:

- Learn about the scope of textile and clothing
- Understanding why fabrics are different
- Learn how fabrics can be manufactured
- Understand basic clothing concepts and garment making

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lab Periods-60

Unit	Topic	No. of Lectures
I	**Introduction** a) Introduction to Clothing and Textile (b) Its importance in day-to-day life (c) Scope (d) Classification of textile fiber on the basis of their source (e) General properties of fibers-primary and secondary	
II	**Knowing Fibers-** Manufacture, processing, properties, and uses of (a) Cellulosic Fiber-cotton, Linen (b) Protein Fibers-Wool, Silk (c) Synthetic/Manmade Fibers-Nylon, Polyester, Acrylic,Rayon	
III	**Yarn to fabrics** (a) Definition of Yarn, Manufacture of Yarn, and YarnProperties (b) Different fabric construction techniques (Weaving, Knitting, Felting, Braiding, Non-woven) (c) Weaving of Cloth-Terminologies and Steps in Weaving (d) Types of weaves-Basic and Decorative	
IV	**Clothing Construction** (a) Tools for Clothing construction (b) Introduction to sewing machine, its parts and maintenance, (c) Importance of Drafting, Flat pattern techniques-advantages & disadvantages (d) Fabric preparatory steps for stitching a garment-preshrinking, straightening, layout, pinning, marking and cutting.	

Chaman Lal Mahavidhyalaya ... Coordinator ... Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I Semester 2 Home Science
Clothing & Textiles (Practical)

Programme/Class: Certificate	Year: I	Semester:2
Subject: Home Science		
Course Code: **HSC/UG004**	Course Title: **Clothing & Textiles (Practical)**	

Course Outcomes:

- Ability to identify fibers and fabrics
- Understanding why fabrics are different
- Learning basic sewing skills
- Learn how garments are stitched

Credits:2	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lab. periods-30(60)

Unit	Topic	No. of Lab. periods
I	**Identification of fibers and fabrics** (a) Fiber identification tests- Visual burning and microscopictest- natural and synthetic, pure and blended fibers. (b) Weaves identification and understanding of their usage	
II	**Learning to Stitch** (a) Knowing how to stitch- straight-line stitching, stitching at curves and corners (b) Basic Stitching-Temporary Stitching, Permanent and decorative stitching	
III	**Basic Sewing** (a) Seams-Plain seams and its finishing, run and fell seam, French seam (b) Attaching different fasteners (c) Disposal of fullness- darts, gathers, tucks and pleats (d) Neckline Finishing-Facing & Binding	

Suggested Readings:

- Cutting Tailoring and Dress Making: National open School, B-31-B Kailash Colony, New Delhi-1100048
- R Bhatia & C Arora (1999), Introduction to Clothing And Textile, Printed by Macho Printery, Raopura, Baroda.
- Complete Guide To Sewing By Reader's Digest: published by the Reader's Digest Association (Canada) Ltd. Montreal-Pleasantville, NY,2002.
- Helen J Armstrong, Pattern Making for Fashion Design, Prentice Hall.
- Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991
- Metric Pattern cutting & Grading by Winfred Aldrich.
- Suggestive digital platform weblinks-
  Swayam Portal,
  http://heecontent.upsdc.gov.in/Home.aspx

Chaman Lal Mahavidhyalaya ★ IQAC Coordinator ★ Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I

B.A. I Semester II Home Science

Resource Management (Theory)

Programme/Class: Certificate	Year: I	Semester: II

Subject: Home Science

Course Code: HSC UG Minor/Elective	Course Title: **Resource Management (Theory)**

Course Outcomes:

The student at the completion of the course will be able to:

- Learn the family resource management as a whole
- Understand the Decision making and use of resources throughoutthe Family life cycle.
- Gain knowledge about Time, Money &Energy as a Resource.
- Appreciate Household Equipment's for work simplification

Credits:4	Minor / Elective
Max. Marks: 25+75	Min. Passing Marks:
Total No. of Lectures-60	

Units	Topic	No. of Lectures
I	**Introduction to Home Management:** Basic Concepts, Purpose, and Obstacles of Management. Process of Management –Planning, Organization, Controlling, and Evaluation. Motivating Factors in Management –Values, Goals, and Standards-Definition and Classification.	
II	**Resources, Decision making & Family life cycle:** Meaning, Characteristics, Types, and Factors affecting the use of Resources. Steps and Role of decision making in management. Stages of the family life cycle.	
III	**Time, Energy and Money Management:** Time as a Resource, Steps in making Time Plan, Tools and Aidsin Time Management.	
IV	Energy as a Resource, Work Curve, Fatigue-Types, Causative Factors and alleviating techniques, Family income as a Resource, Source of Income and Expenditure and Saving. Preparation of family budget in view of family income	

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. I

B.A. I Semester II Home Science

Women Empowerment (Theory)

Programme Class: Certificate	Year: I	Semester: II

Subject: Home Science

Course Code: HSC UG Vocational Minor	Course Title: **Women Empowerment (Theory)**

Course Outcomes:

The student at the completion of the course will be able to:

- To develop insight into the general issues of women.
- To understand strategies for the empowerment of women.

Credits: 3	Vocational/Minor
Max. Marks: 25–75	Min. Passing Marks:
Total No. of Lectures-60	

Units	Topic	No. of Lectures
I	Empowerment of women: Meaning, objectives, and target areas of empowerment: Education, health, social life, economic status, communication skills, political life, cultural life, decision making, and mobility	
II	Gender-based discrimination – Discrimination in social, health, economic, political.and educational; Violence against women, dowry, etc. Discrimination against girl child – social, nutrition, education, etc. Female foeticide(pre-birth and pre-conception elimination), Female infanticide	
III	Sex ratio – Definition, the declining sex ratio of women and girl child -- causes andconsequences	
IV	Laws protecting women from violence and discrimination	

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme/ Class: Certificate/B.A	Year: First	Semester: First
Subject: **Drawing And Painting**		
Course Code	**Course Title** : Fundamental of Visual Arts **Paper** I: Theory	

Course of Outcomes :

- Understanding of basic concept of origin of art, meaning of art and various philosophical definition of art.
- Study of Elements of Painting- Point, Line, Colour, Form, Space, Tone And Texture, Understanding of different frame in fine arts. Understand the basic concept of Indian arts. Study of composition theory in artistic manner

Credits : 04	Core: Compulsory
Max. Marks 25 + 75	Min. Passing Marks: 33

Total No. of Lectures- : 60

	Topic	No. of Lectures
I	Origin of Arts, Meaning of Arts, Definition of Arts	08
II	Six Limbs of Paintings (Shadang)	12
III	Elements of Painting-Point, Line, Space ,Form, Colour, Texture, Tone etc.	16
IV	Principles of Painting Composition , Unity, Balance, Rhythm,	12
V	Proportion, Harmony, Perspective and Contrast.	12

Suggested Reading

1-चित्रकला के मूल आधार - डा० मोहन सिंह मावडी

2-रूपांकन - डा० गिर्राज किशोर अग्रवाल

3- चित्रकला के तत्व व तकनीक - डा० प्रीती गुप्ता

4-Meaning of Art: Herbert Reed

5-Art Fundamental: Theory and Practice-Robert E. Stinson

6-Art Fundamental: Light, Colour, Composition, Anatomy, Perspective & Depth-Gilles Bells

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme/ Class: Certificate/B.A	Year: First	Semester: First
Subject: **Drawing and Painting**		
Course Code	**Course Title** : Still life	**Paper II**: Practical

Course of Outcomes :

- This course offering various learning method of geometrical shapes in line drawing, sketching and various technique of rendering in easy way.

Credits : 02	Core: Compulsory
Max. Marks 25 + 75	Min. Passing Marks: 33

Total No. of Lectures- : 30

	Topic	No. Of Lectures
I	Geometrical shapes study	08
II	Different Shapes, Light and Shade study in natural effects	07
IV	Group study of Vegetables, Fruits and Flowers	08
V	Group study of objects in different medium	07

Size: 1/4 Imperial.

Water : Colour on Cartridge sheet

Sessional work: 10 Paintings and 25 sketch

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme/ Class: Certificate/B.A	Year: First	Semester: Second
Subject: **Drawing and Painting**		
Course Code	**Course Title** : Medium & Techniques	**Paper** 1: Theory

Course of Outcomes :

- Understanding of method and material used in drawing and painting
- Understand the concept of applying Technique.

Credits : 02	Core: Compulsory
Max. Marks 25 + 75	Min. Passing Marks: 33

Total No. of Lectures- : 60

	Topic	No. Of Lectures
I	Water colour , Wash Painting, Pastel Colour	14
II	Poster Colour, Acrylic Colour, Oil Colour Spray Painting	14
III	Fresco & Mural, Collage Painting	16
IV	Method of Rendering, Creative Process	16

Suggested Reading

1-चित्रकला के मूल आधार - डा० मोहन सिंह भावडी

2-चित्रकला के तत्व व तकनीक - डा० प्रीती गुप्ता

3-रूपांकन - डा० गिरीज किशोर अग्रवाल

4-The Artist Handbook- Ray Smith

5-Art School How to Paint & Draw - Hazel Harrison

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar, Uttarakhand

Programme/ Class: Certificate/B.A	Year: First	Semester: Second
Subject: **Drawing and Painting**		
Course Code	**Course Title** : Landscape Painting	**Paper II**: Practical

Course of Outcomes :

- Study of various perspective (one point parallel perspective, two point angular perspective, three point perspective) of the landscapes.
- Nature study of flower, Plants, Trees and Herbs.

Credits : 02	Core: Compulsory
Max. Marks 25 + 75	Min. Passing Marks: 33

Total No. of Lectures- : 30

	Topic	No. Of Lectures
I	On the spot Landscape painting in Water Colour	08
II	Creative Landscape	07
IV	Detailed Study of Trees, Mountain, Sky etc.	08
V	Study of Seasons- Rainy, Spring, Autumn, Winter	07

Size: 1/4 Imperial.

Water : Colour on Cartridge sheet

Sessional work: 10 Paintings and 25 sketch

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

MINOR /ELECTIVE COURSE

Programme : ELECTIVE COURSE IN ARTS/SCIENCE	Year : First	Semester : First
Subject: **Drawing and Painting**		
Course Code	Course Title : Creative Process in Drawing	

Course of Outcomes :

- Understanding the basic of concept of origin of Art and creativity
- Ability to develop new, useful ideas: imagination for artistic or aesthetic value in art

Credits : 4	Minor Elective
Max. Marks 25 + 75	Min. Passing Marks 33

Total No. Of Lectures-60 Tutorials-Practical(in hours per week) : 4-0-0

	Theory Type	No. Of Lectures : - 30
I	Meaning and Definition of Art, Classification of Art	10
II	Process of Art Creation, Element- Imitation, Imagination, Inspiration, Emotion, Intution	10
III	Art and Creation, Art and aesthetic, Art and Society	10

Unit	Practical	No. Of Lectures : - 30
I	Memory Drawing	15
II	Object Drawing	15

Or

I	Creative Drawing	15
II	Perspective Drawing	15

Size: 1/4 Imperial

Medium: Water Colour on Cartridge sheets

Submission of Sessional work: 05 Plates

Submission of Sessional Sketches: 15 sketch.

.

Chaman Lal Mahavidhyalaya ★ I.Q.A.C. Coordinator ★ Landhaura (Haridwar)

Principal

Chaman Lal Mahavidhyalaya

Landhaura Distt.-Haridwar Uttarakhand

CERTIFICATE COURSE IN UG

Programme: *Certificate Course in Arts- Sanskrit*	**Year: I**	**Semester:I Paper-I**

Subject: Sanskrit

CourseCode: SANCC101	**Course Title:** संस्कृत नीति साहित्य एवं व्याकरण

Course Outcomes: अधिगम उपलब्धि

1. विद्यार्थी संस्कृत नीति साहित्य से परिचित हो सकेंगे।
2. संस्कृत नीतिसाहित्य की सुगीतात्मकता का सौंदर्यबोध कर सकेंगे।
3. नीति साहित्य में प्रयुक्त नैतिक शिक्षा का बोध कर सकेंगे।
4. संस्कृत व्याकरण का सामान्य ज्ञान प्राप्त कर उसकी वैज्ञानिकता से सुपरिचित हो सकेंगे।
5. संस्कृत वर्णों के शुद्ध उच्चारण कौशल का विकास होगा।
6. स्वर एवं व्यंजन के मूल भेद को समझ कर पृथक् अर्थावगमन की क्षमता उत्पन्न होगी।
7. स्वर, व्यंजन एवं विसर्ग संधि का विशिष्ट ज्ञान एवं उनके अनुप्रयोग का कौशल विकसित होगा।

Credits: 6	**Core Compulsory**
Max. Marks: 25 (Internel)+ 75 (External)=100	

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	**Topic**	**No. of Lectures**
Unit I	नीतिशतकम्– भर्तृहरि (प्रारम्भ की दो पद्धतियाँ)–संस्कृत नीति साहित्य का परिचय, भर्तृहरि का जीवनवृत्त एवं नीति साहित्य को योगदान, मूर्ख पद्धति एवं विद्वत्पद्धति, के श्लोकों का अर्थ एवं व्याकरणात्मक टिप्पणी।	16
Unit II	हितोपदेश–मित्रलाभ (प्रारम्भिक दो कथायें)–नीति कथाओं का विकास एवं महत्त्व, श्री नारायण पण्डित का जीवन वृत्त एवं कृतियों का परिचय, हितोपदेश की प्रथम दो कथाओं का सारांश (वृद्धव्याघ्रपथिकयोः कथा एवं मृगजम्बुकयोः कथा), अनुवाद एवं व्याकरणात्मक टिप्पणी।	17
Unit III	व्याकरण– संज्ञाप्रकरणम्–माहेश्वरसूत्राणि, लघुसिद्धान्तकौमुदी के संज्ञाप्रकरण से सूत्र संख्या– 1/3/3, 1/1/60, 1/3/9, 1/1/71, 1/2/27, 1/2/29, 1/2/30, 1/2/31, 1/1/8, 1/1/9, 1/1/69, 1/4/109, 1/1/7 एवं 1/4/14।	17

Principal
Chaman Lal Mahavidhyalaya
Lanchoura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN UG

Programme: *Certificate Course in Arts- Sanskrit*	Year: I	Semester:I or II

Subject: Sanskrit

CourseCode: SANME103	Course Title: संस्कृत भाषा अध्ययन

Course Outcomes: अधिगम उपलब्धि

1. संस्कृतभाषा का अध्ययन करने से विद्यार्थियों में व्याकरण के प्रति रूचि उत्पन्न हो सकेंगी।
2. संस्कृतभाषा को स्नातक–कलावर्ग के अतिरिक्त वाणिज्य एवं विज्ञानवर्ग के विद्यार्थी भी पढ़ सकते हैं।
3. संस्कृतभाषा के ज्ञान से नैतिकमूल्यों, आध्यात्मिकमूल्यों से युक्त ग्रन्थों के अध्ययन में सुगमता प्राप्त होगी। मूल्यपरक ग्रन्थों के बोध से अपने जीवन का लक्ष्य पूर्ण करने समर्थ होगें।
4. संस्कृतभाषा के अध्ययन से विद्यार्थी अन्य भाषा के स्रोत को सरलता से समझ सकते हैं।
5. संस्कृतसम्भाषण से विद्यार्थियों की वाक्शक्ति का विकास होगा।

Credits:4	Minor/ Elective Paper
Max. Marks: 25 (Internel)+ 75 (External)=100	

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	संज्ञा प्रकरण–माहेश्वर सूत्र, प्रत्याहार, संस्कृत वर्णमाला परिचय एवं वर्णों के उच्चारण स्थान। संन्धि प्रकरण–अच् सन्धि –दीर्घ सन्धि, गुण सन्धि, यण् सन्धि, वृद्धि सन्धि, अयादि सन्धि, पूर्वरूप सन्धि एवं पररूप सन्धि। हल् सन्धि –श्चुत्व, ष्टुत्व, जश्त्व,, चर्त्व, अनुस्वार, लत्व सन्धि। विसर्ग सन्धि – सत्व, उत्व, रुत्व, लोप।	15
Unit II	शब्दरूप – राम, हरि, रमा, फल लेखनमात्र एवं शब्दरूपों में प्रयुक्त होने वाले सुप् प्रत्यय बोध। धातुरूप – पठ्, गम्, भू, दा।(पंचलकार– लट्, लृट्, लोट्, लङ्, विधिलिङ्) लेखनमात्र एवं धातुरूप में प्रयुक्त होने वाले तिप् प्रत्यय बोध। सर्वनाम रूप लेखनमात्र– तत्, एतत् (पु0, स्त्री0 एवं नपुं0 लिङ्ग) अस्मद्, युष्मद्।	05

Chaman Lal Mahavidhyalaya I.Q.A.C. Cordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya

CERTIFICATE COURSE IN UG		
Programme:CertificateCourse in ARTS-Hindi		Year:I/Semester:I/Paper:I
	Subject:Hindi	
Course Code:	Course Title: प्राचीन एवं भक्तिकालीन काव्य	

Course Outcomes:

1. शिक्षार्थी हिन्दी साहित्य के आरम्भिक काल की कविता का ऐतिहासिक एवं सैद्धांतिक ज्ञान सोदाहरण प्राप्त करता है।
2. शिक्षार्थी चंदबरदाई,कबीर,जायसी,सूर और तुलसी के कृतित्व को समझने के क्रम में महाकाव्य विधा एवं मुक्तक विधा का शिल्पगत परिचय व ज्ञान पाता है।
3. शिक्षार्थी आदिकालीन वीरकाव्य, निर्गुण काव्यधारा व संत साहित्य का सैद्धांतिक परिचय व ज्ञान सोदाहरण पाता है।
4. शिक्षार्थी सूफी काव्यधारा, सगुण काव्यधारा तथा इनके अंतर्गत रामभक्ति और कृष्णभक्ति के महत्वपूर्ण काव्य का सैद्धांतिक परिचय व ज्ञान सोदाहरण प्राप्त करता है।

Credit:6	Core Compulsory
Maximum Marks:25(Internal)+75(external)=100	Minimum Passing Marks 33
Total No. of Lectures-Tutorials-Practical(in hours per week):6-0-0	

Unit	Topic	No. Of Lecture.
I	प्राचीन हिन्दी काव्य : परिचय एवं इतिहास	10
II	भक्तिकालीन हिन्दी काव्य : भक्ति आन्दोलन, प्रमुख सिद्धांत,निर्गुण काव्य–ज्ञान मार्ग और प्रेम–मार्ग,सगुण काव्य–रामभक्ति,कृष्णभक्ति,सूफी काव्य।	10
III	चन्दबरदाई और उनका काव्य : व्याख्या के लिए पृथ्वीराज रासो के पद्मावती समय से चयनित अंश ('पूरब दिसि गढ़ गढ़नपति' से 'निलहि राज प्रथिराज जिय' तक /छन्द संख्या 1–10/ (kavitakosh.org)	10
IV	कबीर और उनका काव्य : व्याख्या के लिए साखी संख्या गुरुदेव कौ अंग–3,6,8;सुमिरन कौ अंग– 8,9,10,विरह कौ अंग–1,5,8;ज्ञान विरह कौ अंग–3,4,5; परचा कौ अंग–3,4,7;रस कौ अंग–1,4,7,लांबी कौ अंग–1,3,4; निहकर्मी पतिव्रता कौ अंग–3,5,14; चितावनी कौ अंग–16,25,34) पद संख्या–16,40,43। (कबीर ग्रंथावली,सम्पादक–डा0 श्यामसुन्दर दास)	10
V	जायसी और उनका काव्य : व्याख्या के लिए 'मानसरोदक खण्ड' से कड़वक संख्या 4:1–4:8 (जायसी ग्रंथावली,सम्पादक–आचार्य रामचन्द्र शुक्ल)	10
VI	सूरदास और उनका काव्य : व्याख्या के लिए विनय के पद–(1,2,23,24,25,39,44,45,46,52) सूरसागर सार,सम्पादक– डॉ0 धीरेन्द्र वर्मा, साहित्य भवन, इलाहाबाद। भ्रमर गीत–(6,7,11,13,23,24,25,28,34,52,64) आचार्य रामचन्द्र शुक्ल ग्रंथावली, भाग 5, ना0 प्रचारिणी सभा,काशी	10
VII	तुलसीदास और उनका काव्य : व्याख्या के लिए रामचरितमानस के अयोध्याकाण्ड से दोहा संख्या 125 से 131 तथा विनय पत्रिका से पद–संख्या – 88,91,105, 111,115,162,172 ,174,198,245,	10
	ClassRoom Lectures,Tutorials,Assignments,ClassRoom Seminar,Group Discussion etc.	70+20=90

Suggested Readings :

1–प्राचीन एवं भक्तिकालीन काव्य –सम्पादक: डॉ मानवेन्द्र पाठक, अंकित प्रकाशन, हल्द्वानी (प्रस्तावित पाठ्यपुस्तक–व्याख्या हेतु संकलित काव्य)
2–कबीर: एक नयी दृष्टि–डॉ रघुवंश, लोकभारती,15–एक महात्मा गाँधी,मार्ग, इलाहाबाद,
3–जायसी–एक नयी दृष्टि डॉ रघुवंश लोकभारती इलाहाबाद,
4–जायसीतर हिन्दी सूफी कवियों की बिम्बयोजना–डॉ मृदुला जुगरान ,सरिता बुक डिपो, नई दिल्ली।
5–जायसी–विजयदेव नारायन साही हिन्दुस्तानी अकादमी, इलाहाबाद

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN UG		
Programme: *Certificate Course in ARTS – Hindi*		Year: I Semester:I Paper-II
Subject: Hindi		
Course Code:	Course Title: हिन्दी भाषा : व्याकरण	

Course Outcomes:

1. शिक्षार्थी हिन्दी भाषा के व्यावहारिक प्रयोजनार्थ वर्तनी एवं शब्दों के मानक स्वरूप का ज्ञान व प्रशिक्षण पाता है।
2. शिक्षार्थी व्यावहारिक प्रयोजनार्थ शुद्ध लेखन हेतु हिन्दी की वाक्य-संरचना एवं व्याकरण का ज्ञान व प्रशिक्षण पाता है।
3. शिक्षार्थी को व्यावहारिक-व्यावसायिक प्रयोजनार्थ हिन्दी भाषा की अत्यन्त समृद्ध शब्द सम्पदा तथा उसकी समाहार- समायोजन शक्ति का ज्ञान होता है।
4. शिक्षार्थी कार्यालयी प्रयोजनार्थ पारिभाषिक – प्रतिपारिभाषिक शब्दों के प्रयोग का ज्ञान व प्रशिक्षण पाता है।

Credits: 4	Minor Elective Paper
Max. Marks: 25 (Internal) + 75 (External) =100	Min. Passing Marks: 33
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0	

Unit	Topic	No. of Lectures
Unit I	वर्ण विचार : - हिंदी वर्णमाला: स्वर और व्यंजन, वर्णों का उच्चारण और वर्गीकरण	07
Unit II	हिंदी-वर्तनी: हिंदी वर्तनी का मानकीकरण, शब्द और वर्तनी-विश्लेषण, वर्तनी विषयक अशुद्धियाँ और उनका शोधन।	07
Unit III	शब्द विचार :- व्याकरण के आधार पर शब्दों का वर्गीकरण(विकारी और अविकारी शब्द)	07

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Skill Development Course

Programme: Certificate course in Arts- Hindi Year -I Semester -I Paper-III
Subject : Hindi Credit: 3
Maximum Marks: 25(Internal) + 75 (External) = 100 Min. Passing Marks: 33
Course Title: **गढ़वाली भाषा एवं संस्कृति**

Course Outcomes:

1. शिक्षार्थी भाषा और संस्कृति का ज्ञान अर्जित करता है।
2. शिक्षार्थी स्थानीय परंपराओं और रिवाजों से परिचित होता है।
3. शिक्षार्थी गढ़वाली भाषा के उद्भव व उसके विविध रूपों का ज्ञान प्राप्त करता है।
4. शिक्षार्थी गढ़वाली संस्कृति के विविध पक्षों से परिचय होता है।
5. शिक्षार्थी का गढ़वाल में रोजगार हेतु कौशल संवर्धन होता है।

Units	Topic	No. of Lectures
I	गढ़वाली भाषा का परिचय, विकास, विविध रूप	10
II	गढ़वाल: भौगोलिक एवं ऐतिहासिक पृष्ठभूमि	09
III	गढ़वाली लोकगीत, लोकगाथा, लोकसंगीत,लोकनृत्य आदि	09
IV	सांस्कृतिक क्षरण की समस्या एवं संरक्षण के उपाय	09
	Class Room Lectures Tutorials] Assignments, Seminars, Group Discussion	37 08 Total= 45

Suggested Reading:

.1. हिमोत्कर्ष – डॉ0 शिवानंद नौटियाल
2. हिमांचल दर्शन – डॉ0 शिवानंद नौटियाल
3. उत्तराखण्ड : संस्कृति , साहित्य और पर्यटन – डॉ0 हरिमोहन एवं डॉ0 शिवप्रसाद नैथानी
4. भारतीय संस्कृति का संदर्भ– मध्य हिमालय – डॉ0 गोविन्द चातक
5 गढ़वाली लोकगाथाएं– डॉ0 गोविन्द चातक
6. गढ़वाली लोकगीत विविधा–डॉ0 गोविन्द चातक

This course can be opted as an elective by the students of following subjects:
अन्य सभी विभाग एवं संकाय

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN UG		
Programme: *Certificate Course in ARTS- Hindi*		Year: I Semester:II Paper-I
Subject: Hindi		
Course Code:	Course Title: हिंदी कथा-साहित्य	

Course Outcomes:

1. शिक्षार्थी हिन्दी की कथा परम्परा का परिचय व ज्ञान प्राप्त करता है।
2. शिक्षार्थी हिन्दी उपन्यास के उद्भव और विकास का ज्ञान प्राप्त करता है।
3. शिक्षार्थी हिन्दी कहानी के उद्भव और विकास का ज्ञान प्राप्त करता है।
4. शिक्षार्थी पाठ्यक्रम में सम्मिलित उपन्यास के अध्ययन से उपन्यास विधा का शिल्पगत ज्ञान प्राप्त करता है।
5. शिक्षार्थी पाठ्यक्रम में सम्मिलित कहानियों के आधार पर कहानी विधा का शिल्पगत ज्ञान प्राप्त करता है।
6. शिक्षार्थी कथा-साहित्य की समीक्षा का ज्ञान प्राप्त करता है।

Credits: 6	Major Core Compulsory
Max. Marks: 25 (Internal) + 75 (External) =100	Min. Passing Marks: 33

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	हिन्दी में गद्य का आरम्भ : आधुनिककाल	10
Unit II	हिन्दी उपन्यास का उद्भव एवं विकास	10
Unit III	हिन्दी कहानी का उद्भव एवं विकास	10

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

Skill Development Course

Programme: Certificate course in Arts- Hindi Year -I Semester -II Paper-II
Subject : Hindi Credit: 3
Maximum Marks: 25(Internal) + 75 (External) = 100 Min. Passing Marks: 33
Course Title: **प्रयोजनमूलक हिन्दी**

Course Outcomes:

1. शिक्षार्थी प्रयोजनमूलक हिन्दी का ज्ञान अर्जित करता है।
2. शिक्षार्थी भाषा के विविध रूपों से परिचित होता है।
3. शिक्षार्थी श्रव्य एवं दृश्य माध्यमों का ज्ञान प्राप्त करता है।
4. शिक्षार्थी पत्रकारिता के विविध पक्षों से परिचय होता है।
5. शिक्षार्थी का रोजगार हेतु कौशल संवर्धन होता है।
6.

Units	Topic	No. of Lectures
I	भाषा की संकल्पना (मौखिक, लिखित , सामान्य, औपचारिक)। भाषा के विविध रूप प्रयोजन मूलक हिन्दी की संकल्पना और उसके विविध आयाम	10
II	श्रव्य एवं दृश्य माध्यमः परिचय एवं कार्यविधि । संचार माध्यमों की प्रकृति एवं चरित्र	09
III	पत्रकारिता का स्वरूप एवं विभिन्न प्रकार। हिन्दी पत्रकारिता का संक्षिप्त इतिहास	09
IV	कार्यालय हिन्दी और अनुवाद। भाषान्तरण–प्रविधि,	09
	Class Room Lectures Tutorials] Assignments, Seminars, Group Discussion	37 08 Total= 45

सन्दर्भग्रन्थ :–

1– प्रयोजनमूलक व्यावहारिक हिन्दी – ओमप्रकाश सिंहल
2– व्यावहारिक हिन्दी संरचना और अभ्यास – बालगोविन्द मिश्र
3– प्रयोजनमूलक हिन्दी – माधव सोनटक्के
4– प्रारूपण शासकीय: पत्राचार और टिप्पण लेखन विधि – राजेन्द्र प्रसाद श्रीवास्तव
5– प्रयोजनमूलक हिन्दी – डॉ0 रामप्रकाश
6– पत्रकारिता संदर्भ ज्ञानकोश – याकूब अली खान

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar, Uttarakhand

CERTIFICATE COURSE IN FUNDAMENTALS OF POLITICAL SCIENCE		
Programme: *Certificate Course in* FUNDAMENTALS OF POLITICAL SCIENCE	**Year: I**	**Semester: I Paper-I**

Subject: Political Science

Course Code: PS101MT	Course Title: Basic Concepts of Political Science

Course Outcomes: Understanding Politics is integral and indispensable for a comprehensive and critical study of political science. The course is designed to train a student in the foundational issues of political science, which is relevant for any in depth study and research.

Credits: 6	**Core: Compulsory**
Max. Marks: 100	**Min. Passing Marks: 33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Concepts: Politics, Political Philosophy, Political Thought, Political Theory and Political Science	10
Unit II	State, Nation, Political System, Civil Society: Definitions, Elements	10
Unit III	Theories of the Origin and Functions of the State: Divine, Social Contract, Evolutionary, Liberal, Welfare, Socialist	10
Unit IV	Sovereignty; Austin's Theory, Pluralist Theory	10
Unit V	Power, Authority, Legitimacy	10
Unit VI	Liberty, Equality, Justice, Law	10
Unit VII	Rights, Duties, Political Obligation	10
Unit VIII	Democracy: Types, Representation and Participation	10
Unit IX	Political Parties, Pressure Groups and Public opinion	10

Chaman Lal Mahavidhyalaya IQAC Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Handwar Uttarakhand

Subject: Political Science			
Course Code: PS101VM	Course Title: Awareness with Civic Rights	Year:1	Semester: I

Course Outcomes: This paper intends to provide; the basic digital and legal awareness. The student can leverage this in the job market. To make aware the students of their basic legal rights which would help them to stand up and help others.

Credits: 4	**Core: Minor Elective**
Max. Marks: 100	**Min. Passing Marks: 33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Right: Concept, Definitions and Theories	12
Unit II	Preamble, Fundamental Rights	12
Unit III	Human Rights, Karma Theory of Right, Rights and Obligations	12
Unit IV	Right to Information, Right to Service and Right to Education	12
Unit V	Rights of Women, Children, Depressed classes and Rights against Cyber Crime	12

Suggested Reading:

1. Khosla, Madhav, et al. 2016. The Oxford Handbook of the Indian constitution. New delhi: OUP
2. Benegal, Shyam. 2014. Samvidhan. Rajya Sabha TV

Suggested Online Link:

1. https://www.digitalindia.gov.in/services
2. https://rtionline.gov.in/
3. https://www.india.gov.in/topics/law-justice

Suggested equivalent online courses:

- https://ndl.iitkgp.ac.in/
- http://epgp.inflibnet.ac.in/
- http://egyankosh.ac.in/
- https://www.ncertbooks.guru/english-skills/
- https://epathshala.nic.in/
- https://www.digitalindia.gov.in/services
- https://rtionline.gov.in/
- https://www.india.gov.in/topics/law-justice

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt.-Haridwar, Uttarakhand

CERTIFICATE COURSE IN FUNDAMENTALS OF POLITICAL SCIENCE		
Programme: *Certificate Course in* FUNDAMENTALS OF POLITICAL SCIENCE	**Year: I**	**Semester: II Paper-I**
Subject: Political Science		
Course Code: PS102MT	**Course Title: Comparative Political Systems: Major Constitutions of the World**	

Course Outcomes: Politics is the mirror of the society. This paper will help the student in furthering his understanding of the world around. Comparison is widely used method of scientific knowledge This would help to critical analysis.

Credits: 6	**Core: Compulsory**
Max. Marks: 100	**Min. Passing Marks: 33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Comparative Politics: Meaning and Nature, Political Systems: Unitary, Federal, Parliamentary and Presidential, Constitution & Constitutionalism	15
Unit II	UK: Historical Background, Main Features, The Crown, Executive, Legislature, Party System	15
Unit III	USA: Historical Background, Main Features, Executive (President) Legislature (Congress) Judiciary and Judicial Review. Separation of Power and Theory of Check and Balance	15
Unit IV	Russia: Historical Background, Main Features, Rights and Duties, Executive, Legislature, Judiciary, Russian Federation	15
Unit V	Switzerland: Historical Background, Main Features, Executive, Legislature, Council of State, Federal Court, Direct Democracy	15
Unit VI	Australia: Historical Background, Main Features, Executive, Legislature, Judiciary, The Australian Federation.	15

Suggested Reading:

1. A.C. Kapoor and K.K. Mishra- Select Constitution (English and Hindi)
2. B. Shiva Rao- Select constitutions of the World
3. B.C. Rai- The World Constitution: A Comparative Study
4. D.D. Basu- Select Constitutions of the World
5. G. Almond - Comparative Politics Today : A World View
6. J.C. Johari- Select World Constitutions (English and Hindi)

Chaman Lal Mahavidhyalaya (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

Programme/Class: Certificate	Year: first	Semester: I
Subject: Sociology		
Course code: UGSOC-CC 101	Course Title: Introductory Sociology	
Credits: 06	Core: Compulsory	
Max. Marks: 100	Passing marks: As per University Rules	

Course Outcome:

This Paper will introduce students to new concept of Sociological discipline. These Concepts will enhance the conceptual learning and understanding of the basic concepts used in Sociology. This paper will contribute in enriching the vocabulary and scientific temperament of the students. The course is designed to incorporate all the key concepts of sociology which would enable the learner to develop keen insights to distinguish between the common-sense knowledge and Sociological knowledge.

Units	Topics	No. of Lectures
Unit I	Origin and Growth of Sociology, Meaning, Scope and Nature of Sociology, New Trends in Sociology.	15
Unit II	Relationship of Sociology with Other Social Sciences: Philosophy, Anthropology, Social Work, History, Political Science & Economics.	15
Unit III	Sociological Concept - Society : Definition and Characteristics, Community : Definition and Characteristics, Association : Definition and Characteristics, Institutions : Definition and Characteristics,	15
Unit IV	Social Processes: Associative- Co-operation : Meaning and Characteristics, Accommodation : Meaning and Characteristics, Assimilation: Meaning and Characteristics, Dissociative-Conflict : Meaning and Characteristics, Competition, & Contravention : Meaning and Characteristics,	15
Unit V	Social Groups: Meaning and Types of Social Group: Primary and Secondary Groups, Reference Group.	15
Unit VI	Culture & Civilization: Meaning, Characteristics, Relationship and Differences between Culture & Civilization.	15

Suggested Readings:

- Giddens, A, "Sociology", Oxford University Press, London, 2006
- MacIver and Page, "Society", McMillan, London, 1949
- Inkeles, A, "What is Sociology", Prentice Hall of India, New Delhi, 1987
- Harton, P.B and hunt C.L, "Sociology" McGraw Hill, New York, 1985
- Harlambos and Holborn, "Sociology: Themes and Perspectives", Harper Collins, USA, 2014
- N.K. Boss, Culture and Society in India, Asia Publishing House, Bombay, 1967

Chaman Lal Mahavidhyalaya Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN UG (Arts)		
Programme: *Certificate Course in UG(Arts)*	**Year: I**	**Semester:I**
Subject: Sociology		
CourseCode: UGSOC-ME102	**Course Title: Industrial Sociology**	

Course Outcomes:

This Paper describes the nature and scope of Industrial Sociology. This Paper Elaborate changing structure of modern Industrial enterprises and principles of organization-Formal and Informal.

Credits: 04	**Minor Elective**
Max. Marks:	**Min. Passing Marks: As per University Rules**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Industrial Sociology: Meaning, Definition, Nature and Scope, Development of Industrial Sociology.	15
Unit II	Industrial Organization: Formal and Informal Organization. Structure and [illegible] of Industrial Organization, Prerequisites of Industrial Organization.	15
Unit III	Industrial Management and Worker's Participation. The Management Structure-Line and Staff Organization, White collar Workers, Blue Collar Workers and Specialist.	15
Unit IV	Labour Welfare: Concept and Measures, Trade Union: Growth, functions and role in industrial organization.	15

Suggested Reading:

- Charles, A. Myers and SubbiahKannappan, Industrial Relations in India, Asia Publishing House, Bombay.
- Giri, V. V., Labour Problems in Indian Industry, Asia Publishing House, Bombay.
- Gisbert, P., Fundamental of Industrial Sociology, Tata McGraw-Hill Publishing Co., New Delhi.
- Karnik, V. B., Indian Labour: Problems and Prospects, Minerva Associates Pvt. Ltd., Calcutta.
- Kohli, A. S., S. K. Sharma, Labour Welfare and Social Security, Anmol Publications Pvt. Ltd., New Delhi.
- Mamoria, C. B. and S. Mamoria, Dynamics of Industrial Relations, Himalaya Publishing House, New Delhi.
- Mathur, A. S. and J. S. Mathur, Trade Union Movement in India, Chaitanya Publishing House, Allahabad.

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt.-Haridwar, Uttarakhand

CERTIFICATE COURSE IN UG (Arts)

Programme: *Certificate Course in UG(Arts)* | **Year: I** | **Semester: II**

Subject:
Sociology

Course Code: UGSOC-CC201 | **Course Title:** Indian Social System

Course Outcomes:

- Students will be able to develop in-depth understanding and get detailed insight into the past and contemporary Indian Society.
- Students will be familiarized about the Traditional Social Institutions of Indian Society in context of continuity and change.
- The programme seeks to build among students the sociological knowledge and analytical skills that would enable them to think critically about Indian society and emerging social issues.
- The ability to formulate effective and convincing written and oral arguments about issues and challenges within Indian Society.

Credits: 06	**Core Compulsory**
Max. Marks: 100	**Min. Passing Marks: As per University Rules**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Features of Indian Society: Unity in Diversity, Diversities in Indian society and culture, Causes and Consequences of diversities, India as a Pluralistic Society: Concept, Evolution of India as Plural society, Present bases of Plural society in India, Problems of Plural society in India.	**15**
Unit II	Dharma, Varna ashram vyavastha: Meaning, Characteristics, Types and Sociological Importance of Varna Vyavastha ; Purushartha: Meaning, Forms, Sociological Importance of Purushartha ; Sanskar: Meaning, Objectives, Major Sanskar of Hindu Life, Sociological Importance of Sanskar ; Doctrine of Karma.	**24**
Unit III	Marriage: Concept, Objectives, Marriage among Hindus and Muslims: Meaning, Traditional Forms. Family: Definitions, Types of Family, Functions of Family. Caste: Meaning, Characteristics and Theories of origin: Traditional Theory, Racial Theory, Occupational Theory, Brahminic Theory, Religious Theory, Merits and Demerits of Caste System. Kinship: Definitions, Types, Kinship Terms, Kinship Usages and Social Significance of Kinship.	**24**
Unit IV	Jajmani System: Meaning, Structure and Functioning, Importance, Change in Jajmani System.	**12**
Unit V	Social Legislations: Constitutional provisions in favour of Dalits, Tribes and other Backward Classes, Women and Children.	**15**

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt.-Haridwar Uttarakhand

CERTIFICATE COURSE IN UG (Arts)

Programme: *Certificate Course in UG(Arts)*	**Year: I**	**Semester:II**

Subject:
Sociology

CourseCode: UGSOC-V/SD202	**Course Title:** Gender Sensitization (Vocational/Skill Development)

Course Outcomes:

- Sensitize students to issues related to gender and equality among all sexes.
- Provide them with the tools and skills to develop and integrate a gendered perspective in work and life.

Credits: 03	**Vocational/Skill Development**
Max. Marks: 100	**Min. Passing Marks: As per University Rules**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	Understanding Gender 1.1 Sex 1.2 Gender 1.3 Gender Identity: Masculinity and Femininity 1.4 Gender Roles	**16**
Unit II	Social Construction of Gender 2.1 Family 2.2 Marriage 2.3 Education 2.4 Religion.	**20**
Unit III	Gender and Work 3.1 Household Work 3.2 Invisible Work 3.3 Women in Organized and Unorganized Sector 3.4 Gender Division of Labour.	**20**
Unit IV	Gender Issues 4.1 Health 4.2 Violence 4.3 Sex ratio 4.4 Media.	**19**

Principal
Chaman Lal Mahavidhyalaya
Lanchaura Distt.-Haridwar Uttarakhand

Suggested Reading:

- KamlaBhasin,. 2000. What is Patriarchy, New Delhi : Kali for women.
- Kamla Bhasin.1999. Some Questions on Feminism, New Delhi: Kali for women,
- Neera Desai, and Krishnaraj Maithreyi.1987. Women and Society in India, New Delhi: Ajanta Publications.
- Ann Oakley. 1972. Sex Gender and Society, New York: Harper and Row.
- Neera Desai and Usha Thakkar. 2003. Women in Indian society, New Delhi: NBT.

Chaman Lal Mahavidhyalaya * Lanchaura (Haridwar)

Programme: B.Com.	Year: First	Semester: First
Subject: Commerce		
Course Code: BC-101	Course Title: Financial Accounting	

Course outcomes: The objective of this paper is to help students to acquireconceptualknowledge offundamentals of accounting and to impart skills for recording various kinds of businesstransactions.

Credits: 6	Core Compulsory / Elective: Compulsory
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures: 90

Unit	Topics	No. of Lectures
I	Shri Kalyan Subramani Aiyar (K.S. Aiyar) 1859-1940 known as father of Accountancy in India. Nature and scope of Accounting, Generally Accepted Accounting Principles: Concepts and Conventions, Indian and International Accounting Standards. Accounting Mechanics	8
II	Double Entry System, Preparation of Journal, Ledger and Trial Balance, Profit and Loss A/c, Balance Sheet, Concept of Income and its Measurement.	12
III	**Royalty Accounts** - Accounting Records for Royalty in the books of Landlords and Lessee, Recoupment of Short working, Sub - lease, Short working Reserve Account, Nazarana.	8
IV	**Hire Purchase Account** - Accounting Records in the Books of Hire Purchaser and Vendor, Different Methods of Calculation of Interest and Cash Price, MaintenanceofSuspenseAccount,PaymentofPremium,DefaultinPaymentand Partial Returns ofGoods. **Installment Payment System** - Difference between Hire Purchase and Installment Payment System. AccountingRecordsinthebookofPurchaser&Vendor,Interestsuspenseaccount.	20
V	**Departmental Accounts**- Meaning, Objects and Importance, Advantage, Methods of Departmental Accounts, Final Accounts of Non-Corporate Departmental Business, Allocation of Indirect Expenses.	9
VI	**Branch Accounts** - Meaning and Objectives of Branch Account, Importance and Advantages, Classification of Branches, Accounting of Branch Accounts under various Methods.	10
VII	**Insolvency Accounts**- (For individuals/Sole Trade only), Main provision of IBC-2016 Preparation of Accounts under latest provisions Insolvency and Bankruptcy Code 2016(New Insolvency Act)	15
VIII	Accounts from Incomplete Records- Receipts & Payments, Income & Expenditure Account.	8

Suggested Readings:

1. Jain&Naranag."AdvancedAccounts".JainBookAgency,18thEdition,Reprint(2014)
2. Jaisawal, K.S., Financial Accounting, (Both in Hindi & English Version),VaibhavLaxmiPrakashan.(2010)
3. Gupta.R.L.&Radhaswamy,M.,FinancialAccounting:SultanChandandsons.
4. Shukla.M.C.,Grewal T.S.,&Gupta.S.C.,AdvancedAccounts:S.Chand&Co.
5. Maheshwari S.N. &Maheshwari S. K, "A text book of Accounting forManagement", Vikas Publication, 10th Edition(2013)
6. Shukla.S.M.,FinancialAccounting,Edition:51st,SahityaBhawanPublications,2017
7. Gupta.R.LandShukla,M.C.,"PrinciplesofAccountancy",S.Chand&CompanyLtd., (2011)
8. Arulanandam, M.A. & Raman, K.S., "Advanced Accounting", Vikas Publishers,(2010).
9. Shukla,M.C.,"AdvancedAccounting",SultanChand&Sons,(2010)
10. Babu, Deepak, Financialaccounting, NavyugSahitya Sadan, Agra

Note- Latest edition of the text books should be used.

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme: B.Com.	Year: First	Semester: First
Subject: Commerce		
Course Code: BC-102	Course Title: Business Regulatory Framework	

Course outcomes: The objective of this course is to provide a brief idea about the framework ofIndianContractAct,1872, Negotiable Instrument Act 1881,CompetitionAct,2002andSaleofGoods Act,1930.

Credits: 6	Core Compulsory / Elective: Compulsory
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures: 90

Unit	Topics	No. of Lectures
I	Indian Contract Act, 1872: Definition & Nature of Contract, Classification; Offer & Acceptance; Capacity of Parties; Free Consent; Consideration, Legality of Objects	20
II	Types of Agreements; Performance of Contracts; Discharge of Contract; Contingent Contracts; Quasi Contracts; Remedies for Breach of Contract, Special Contracts: Indemnity & Guarantee; Bailment & Pledge; Contract of Agency.	20
III	Sale of Goods Act, 1930; Contract of Sale of Goods, Conditions & Warranties; Transfer of Ownership; Performance of the Contract; Remedial Measures; Auction ableClaims.	20
IV	Negotiable Instrument Act, 1881: Cheque, Promissory Note, Bill of Exchange, Crossing of Cheque, Dishonour of Cheque, Holder in due course and Payment in due course.	12
V	Competition Act,2002:History and Development of Competition Law, Salient features of the Competition Act 2002, Basic Concepts, Major Provisions of the Competition Act, Basic features of LLP 2008; Main Features	18

Suggested Readings:

1. Kuchal M.C: Business Law: Vikas Publishing House, NewDelhi.
2. Chandha P.R: Business Law: Galgotia, NewDelhi.
3. Kapoor N.D: Business Law: Sultan Chand & Sons, New Delhi. (Hindi andEnglish)
4. Desai T.R.:IndianContract Act, SaleofGoodsActandPartnershipAct;S.C.Sarkar& Sons Pvt. Ltd.,Kolkata.
5. Tulsian, P.C., Business Law, New Delhi, Tata McGrawHill.
6. Sharma,Sanjeev,BusinessRegulatoryFramework,JawaharPublication,Agra

Note:- Latest edition of the text books should be used.

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme: B.Com.	Year: First	Semester: First
Subject: Commerce		
Course Code: BC-103 (A)	Course Title: Business Organization and Management	

Course outcomes:

After completing this course a student will have:

Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization.

Ability to understand the terminologies associated with the field of Business Organization along with their relevance. Ability to identify the appropriate types and functioning of Business Organization for solving different problems.

Ability to apply basic Business Organization principles to solve business and industry related problems. Ability to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

Credits: 6	Core Compulsory / Elective: Elective
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures: 90

Unit	Topics	No. of Lectures
I	Introduction: Business Concept & Objects, Social Responsibility of Business Establishment of New Business Meaning. Objectives Meaning, Objectives & Principles of Organization, Size of Business Unit, Factors determining Size, Measurement of Size, Concept of Optimum Size.	14
II	Forms of Business Organization:SoleTradership,PartnershipFirm,Business(PublicandPrivate), Formation & Choice of Business Organization. Definition of Management, Its nature ofpurpose, Fayol's Principles & Elements of Management. Recent Developments of Management Thought.	8
III	Planning & Organising: Its nature & purpose, types of plans, Planning steps & process, Management by objectives (MBO), Decision-Making, Forecasting, Organisational Design & Organisational Structure, Power & Distribution of Authority.	10
IV	Motivation, Leadership & Direction: Maslow's Need Hierarchy Theory, Herzberg's Two Factor Theory, Job Enlargement. Special Motivation Techniques, Definition & Approaches to Leadership, The Principal Tasks of Leadership Role & Principles of Direction.	14
V	Controlling: meaning, definition & techniques of control, Principle of Controlling, Process of Control & Types of Controls. Human Aspect of Controls.	8
VI	Plant Location: Concept, Meaning, Importance, Factors Affecting Plant Location. Alfred Weber's and Sargent Florence's Theories of Location. Plant Layout –: Meaning, Objectives, Importance, Types and Principles of Layout. Factors Affecting Layout.	16
VII	Business Combination: Meaning, Characteristics, Objectives, Causes, Forms and Kinds of Business Combination.	10
VIII	Rationalisation: Meaning, Characteristics, Objectives, Principles, Merits and demerits, Difference between Rationalisation and Nationalisation	10

Suggested Readings:

1. Gupta,C.B.,"BusinessOrganisation",MayurPubliction,(2014).
2. Singh, B.P., Chhabra, T.N., "An Introduction to Business Organisation&Management", Kitab Mahal, (2014).
3. Srivstava , V.P. "Principle of Management Theory & Practice", Kumud Publications (2020)
4. Sherlekar, S.A. &Sherlekar, V.S. "Modern, Business Organization & Management Systems Approach Mumbai", Himalaya Publishing House, (2000).
5. BhusonV.K.,"BusinessOrganization",SultanChand&Sons.
6. Prakash, Jagdish, "Business Organistaton and Management", KitabMahalPublishers (Hindi andEnglish)
7. Koontz and Weirich, Essentials of Management, Tata McGraw Hill, NewDelhi.
8. Drucker, P.F., Management Challenges for the 21st Century, Butterworth,Oxford.
9. Stoner and Freeman, Management, PHI, NewDelhi.

Note: **Latest edition of the text books should be used.**

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme: B.Com.	Year: First	Semester: First
Subject: Commerce		
BC-104	Course Title: Inventory Management	

Course outcomes:

After completing this course a student will have:

Ability to understand the concept of Inventory Management along with the basiclaws and axioms of Inventory Management.

Ability to understand the terminologies associated with the field of Inventorymanagement and control along with their relevance.

Ability to identify the appropriate method and techniques of Inventorymanagement for solving different problems.

Ability to apply basic Inventory management principles to solve business andindustry related problems.

Ability to understand the concept of Working Capital Management, Demand Analysisand Obsolescence.

Credits: 4	Core Compulsory / Elective: Compulsory
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures: 60

Unit	Topics	No. of Lectures
I	**Inventory Management:** Concept, meaning, Inventory Management Process, Importance of Inventory Management, Principles of Inventory Management, How to improve inventory management, perpetual inventory system, what are inventory costs, Role of Inventory Management, Methods of Inventory Management, Benefits of good Inventory Management.	14
II	**Concept and Valuation of Inventory:** Concept and Objectives of Inventory, Need for holding Inventory, Planning and controlling Inventory levels, Effects of excess inventory on business, Product Classification, Product Coding, Lead Time, ReplenishmentMethods.	16
III	**Management of Working Capital: Concept,** Meaning, Classification, Factors determining Working Capital requirements, Sources of Working Capital, Need of Working Capital, Working Capital Ratio- current ratio, quick ratio, absolute liquid ratio, cash ratio and working capital turnover ratio.	16
IV	**Inventory Control:** Concept and Meaning of Inventory Control, Objectives and Importance and Essentials of Inventory Control, Types of Inventory, Techniques of Inventory Control :EOQ, ABC, VED, JIT, Determination of inventory levels, Impact of Inventory Inaccuracy, Disposal of Obsolete and Scrap items, Reasons for Obsolescence, Control of Obsolescence, Control ofScrap.	14

Suggested Readings:

1. MullerM.(2011).Essentialsof Inventory Management,AMACON.
2. Narayan P. (2008). Inventory Management, ExcelBooks.
3. Gopalkrishnan P. (1977). Materials Management, PHI Learning Pvt.Ltd.
4. Chitale A.K. & Gupta R.C. (2014). Materials Management, PHILearning Pvt.Ltd.
5. ChapmanStephen(2017).IntroductiontoMaterialsManagement,PearsonPublishing.

Note- **Latest edition of the text books should beused.**

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme: B.Com.	Year: First	Semester: Second
Subject: Commerce		
Course Code: BC-201	Course Title: Basic Business Finance	

Course outcomes:
This course is to help students understand the conceptual framework of Business Finance.

Credits: 6	Core Compulsory / Elective: Compulsory
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures :90

Unit	Topics	No. of Lectures
I	**Business Finance:** Meaning, Nature and Scope, Finance Function, Investment Function, Financing and Dividend Decisions, Financial Planning	10
II	Capitalization- Meaning, Over capitalization & Under Capitalization, Theories of Capitalization. Capital Structure: Concept and Planning, Theories and Determinants, Capitalization VS Capital Structure, Leverages- types of leverages, Effects of new financing.	16
III	**Cost of Capital:** Meaning, Importance, Calculation of Cost Of Debt, Preference Shares, Equity Shares and Retained Earnings, Combined (Weighted) Cost of Capital	16
IV	Capital Budgeting: Meaning Nature and Importance of Investment Decisions, Evaluation Methods.	14
V	**Dividend Policies:** Meaning, Importance & forms of dividend, Dividend Policies, Essentials of sound dividend policies, formulation of dividend policies. Walter, Gorden & M.M. Theory of dividend. Provisions of Indian Companies Act, 2013 in respect of Dividend Payment.	16
VI	Time value of Money, Uses of simple and Compound interest in business finance. **Capital Market:** (A) New Issue Market (B) Secondary Market Functions And Role Of Stock Exchange (BSE, NSE,) Money Market: Indian Money Markets- Composition and Structure.	18

Suggested Readings:

1. Avadhani V A FinancialSystem
2. Bhalla VK Modern Working CapitalManagement
3. ChandraPrasanna FinancialManagementTheoryAndPractices
4. Khan NY And Jain PK Financial Management Tax AndProblems
5. Pandey I M FinancialManagement
6. S.P. Gupta. SahityaBhawan .Agra
7. Srivastava, V.P., Basic Business Finance, Navyug Books International, Delhi (2020)
8. Srivastava, V.P., Working Capital Management, Kumud Publications ,Delhi (2020)
9. Batra, S.K. Business Finance. Sahitya Bhawan Publications, Agra. (Hindi)

Note- Latest edition of the text books should be used.

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Programme: B.Com.	Year: First	Semester: Second
Subject: Commerce		
Course Code: BC-202	Course Title: Business Statistics	

Courseoutcomes:
The purpose ofthis paper isto inculcate andanalyticalability among the students.

Credits: 6	Core Compulsory / Elective: Compulsory
Max. Marks: 25+75	Min. Passing Marks: 10+30

Total No. of Lectures: 90

Unit	Topics	No. of Lectures
I	Indian Statistics: Meaning, About father of Indian Statistics (Prof. Prasanta Chandra Mahalanobis). Introduction to Statistics: Meaning, Scope, Importance and Limitations & Distrust. Indian Statistical Organization.	08
II	Statistical Investigation- Planning and organization, Methods of Investigation, Census and Sampling. Collection of Data- Primary and Secondary Data, Editing of Data Classification of data. Frequency Distribution and Statistical Series. Tabulation of Data Diagrammatical and Graphical Presentation of Data.	12
III	Measures of Central Tendency -Mean, Median, Mode, Geometric and Harmonic Mean; Dispersion – Range, Quartile, Percentile, QuartileDeviation,	10
IV	Mean Deviation, Standard Deviation and its Co- efficient, Co-efficient of Variation and Variance. Test of Skewness and Dispersion, Its Importance, Co-efficient of Skewness.	15
V	Correlation- Meaning, application, types and degree of correlation, Methods- Scatter Diagram, Karl Pearson's Coefficient of Correlation, Spearman's Rank Coefficient of Correlation.	25
VI	IndexNumber:-Meaning,TypesandUses,MethodsofconstructingPriceIndex Number, Fixed – Base Method, Chain-Base Method, Base conversion, Base shifting deflating and splicing. Consumer Price Index Number, Fisher's Ideal Index Number, Reversibility Test- Time and Factor;	10
VII	Analysis of Time Series: -Meaning, importance and Components of aTimeSeries Decomposition of TimeSeries:-MovingAverage Method and Method of Least Square & Graphical Representation.	10

Suggested Readings:

1. Heinz.Kohler:StatisticsforBusiness&Economics,HarperCollins;
2. Gupta, S.C. Fundamental of Statistics, HimalayaPublication.
3. Sharma J.K., Business Statistics, PearsonEducation.
4. GuptaS.P.&GuptaArchana,Elementary Statistics,(EnglishandHindi)SultanChand& Sons, NewDelhi.
5. Garg, A.K. & Batra , S.K. Business Statistics, Swati Publications, Meerut.(Hindi & English)

Note: Latest edition of the text books should be used.

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Detailed Syllabus for M. Com

Semester-I

M.Com. 101: Corporate Accounting

Assessment: Internal 20 marks , End semester exam of three hours 80 marks

Course Objectives: The objective of the course is to apprise the students with the Accounting of companies as per Provisions of the Companies act 2013.

Course Outline:

Unit 1: Preparation of Final Accounts of Companies: Preparation of Final Account with adjustments as per revised schedule III. Profit Prior and after Incorporation of a company. Managerial Remuneration.

Unit II: Valuation of Goodwill and Share: Valuation of Goodwill and Shares with all the available methodology.

Unit III: Accounting for Redemption : Redemption of Preference Shares and Debentures.

Unit IV: Holding Companies: Preparation of Consolidated Profit & Loss Accounts and Balance-sheet.

Unit V: Accounting for Amalgamation of Companies as per AS-14: Accounts of Amalgamation, Absorption and External Reconstruction of Companies, Internal reconstruction of companies .

Suggested Reading:

1. Shukla M.C. & T.S. Grewal: Advanced Accounts, S. Chand & Co. (Pvt.) Ltd. New Delhi.
2. Shukla S.M. & S.P. Gupta: Corporate Accounting, Sahitya Bhawan Publications Agra.
3.. Gupta R.L & M. Radha Swamy: Ad. Accounting, Sutan Chand & Sons, Delhi
4. Maheshwari S.N: Fiannacial Accounting,
5.. Monga J.R: Corporate Accounting, Mayur Publication, New Delhi

Note: The pattern of setting the question paper is given at the end of the Syllabus, which is to be followed by the paper setter.

Chaman Lal Mahavidhyalaya Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

M.Com. 102: Management Principles and Practice:

Assessment: Internal 20 marks , End semester exam of three hours 80 marks

Course objectives: The objective of this course is to provide an understanding of the concepts and principles of management.

Course Outline:

Unit I: Management: Nature and Significance of Management, Classical, Neo-Classical and Modern Theories of Management. Contingency and System Approach to Management, Functions of Management.

Unit II: Planning: Meaning and Process, Goals, Objectives, Plans and Programmes. Premises of Planning – Forecasting, Process of Decision Making. Rationality and Bounded Rationality. Risk and Uncertainty in Decision Making.

Unit III: Organization: Theory, Structure, Departmentation, Vertical and Horizontal Growth in Organization, Line and Staff Functions and Conflicts, Span of Management, Authority, Accountability, Delegation, Centralization and Decentralization, Formal and informal organization Group Functions in Organization: Formation and Role of Groups in organization.

Unit IV: Staffing: Nature and Purpose of Staffing: Selection, Performance Appraisal, Organizational Development.
Leading: Motivation – Meaning and Theories of Motivation, Motivation in Practice Leadership – Types and Traits of a Leader, Leadership Styles. Communication: Forms, Process, Barriers and Effective Communication.
Unit V: Controlling: Meaning and Process of Controlling. Techniques of Controlling. Management of Change: Adaptability to Change, Resistance to Change. Emerging Challenges for the Managers.

Suggested Reading:

1. Stoner, James A.F., Management, Pearson (Textbook)
2. Robbins, Stephen P. and Coulter, Mary, Management, Prentice Hall
3. Koontz, Harold and Weihrich, Heinz, Essentials of Management, McGraw-Hill
4. Bateman, Thomas S. and Snell, Scott A., Management, McGraw-Hill
5. Hill, Charles W.L. and McShane , Steven L., Principles of Management, McGraw Hill
6. Pareek, Udai, Understanding Organizational Behaviour, OUP, New Delhi (Textbook)
7. Thakur and Burton, Management, McGraw-Hill

Note: The pattern of setting the question paper is given at the end of the Syllabus, which is to be followed by the paper setter.

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

M.Com.103: Business Environment:

Assessment: Internal 20 marks , End semester exam of three hours 80 marks

Course Objectives: The objective of this course is to apprise the students with various concepts of business environments so that their ability to take decisions in changing business environment can develop .

Course Outline:

Unit I: Theoretical Framework of Business Environment: Concept, significance and nature of business environment; Elements of environment micro and macro; Techniques of environmental scanning and monitoring.

Unit II: Economic Environment of Business: Significance and elements of economic environment; Economic system and business environment; Economic planning in India; Government policies, industrial policy, fiscal policy, monetary policy, EXIM policy.

Unit III: New Economic Policy: Privatization, Liberalization and Globalization and their Implications for Indian Business, MNCs.

Unit IV: Political and Legal Environment of Business: Critical elements of political environment; Government and business; Competition Act 2002, FEMA and Consumer Protection Act.

Unit V Technological Environment: Factors Influencing Technological Environment. Role and Impact of Technology on Business. Transfer of technology-Channels, Methods and limitations.

Suggested Reading:

1. Adhikary, M.: Economic Environment of Business Sultan Chand & sons New Delhi.
2. Ashwathappa, K.: Legal Environment of Business Himalaya Publication New Delhi.
3. Cherunilam, Francis: Business Environment Himalaya Publishing House New Delhi.
4. Raj Vaid: Business Environment.
5. Dhingra, I.C. Indian Economy: Environmental and Policy, Sultan Chand & Sons, New Delhi.
6. Mishra S.K. and V.K. Puri: Economic Environment of Business.

Note: The pattern of setting the question paper is given at the end of the Syllabus, which is to be followed by the paper setter.

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Year	Semester	Course Code	Paper Title	Theory/Practical	Credits
Certificate in Introductory Chemistry					
1	I		Fundamentals of Chemistry-I	Theory	4
			Chemical Analysis-I	Practical	2
1	II		Fundamentals of Chemistry-II	Theory	4
			Chemical Analysis-II	Practical	2

Semester-I
Paper-I (Theory)
Course Title: Fundamentals of Chemistry-I

Programme/Class: Certificate in Introductory Chemistry	Year: First	Semester: First
		Paper-I Theory Subject: Chemistry
Course Code:	Course Title: Fundamentals of Chemistry-I	

Course outcomes: There is nothing more fundamental to chemistry than the chemical bond. Chemical bonding is the language of logic for chemists. Chemical bonding enables scientists to take the 100-plus elements of the periodic table and combine them in myriad ways to form chemical compounds and materials. Periodic trends, arising from the arrangement of the periodic table, provide chemists with an invaluable tool to quickly predict an element's properties. These trends exist because of the similar atomic structure of the elements within their respective group families or periods, and because of the periodic nature of the elements. Reaction mechanism gives the fundamental knowledge of carrying out an organic reaction in a step-by-step manner. This course will provide a broad foundation in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective. Students will gain an understanding of;

- ✓ Molecular geometries, physical and chemical properties of the molecules.
- ✓ Current bonding models for simple inorganic and organic molecules in order to predict structures and important bonding parameters.
- ✓ This course gives a broader theoretical picture in multiple stages in an overall chemical reaction.
- ✓ It describes reactive intermediates, transition states and states of all the bonds broken and formed.
- ✓ It enables to understand the reactants, catalyst, stereochemistry and major and minor products of any organic reaction. It describes the types of reactions and the kinetic and thermodynamic aspects one should know for carrying out any reaction and the ways how the reaction mechanism can be determined.
- ✓ The chapter stereochemistry gives the clear picture of two-dimensional and three-dimensional structure of the molecules, and their role in reaction mechanism. The course will also strengthen the knowledge of students regarding complete picture of states of matter that includes gaseous, liquid, solid and colloidal states.

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Semester-I, Paper-II (Practical)

Course Title: Chemical Analysis -I

Programme/Class: Certificate in Introductory Chemistry	Year: First	Semester: First
		Paper-2 Practical Subject: Chemistry
Course Code:		Course Title: Chemical Analysis-I

Course outcomes:

Upon completion of this course, the students will have the knowledge and skills to: understand the laboratory methods and tests related to inorganic mixture analysis and estimation of surface tension of commercial products. Also, they can understand the absolute configuration of organic molecules with the help of models. The students will able to

- ✓ Qualitatively estimate anions and cations in samples.
- ✓ Determine the relative surface tension of a given liquid.
- ✓ Find out the absolute configuration of organic molecules.

Credits:2	Compulsory
Max. Marks: 10 + 40	Min. Passing Marks: 17

Total Number of Hours = 60

Unit	Contents	Number of Hours
1	Laboratory hazards and safety precautions	6
2	**Salt mixture analysis:** Identification of acid radicals (three to four) including anions in combination and basic radicals upto II Group in the given salt mixture.	18
3	**Organic exercise:** Determination of absolute configuration of organic molecules using ball and stick models. Students are supposed sketch the structure of simple organic compounds showing their stereochemistry using Fischer Projection.	18
4	**Physical exercise:** Determination of relative surface tension of the given liquid using Stalagmometer.	18

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Semester-II
Paper-I (Theory)
Course Title: Fundamentals of Chemistry-II

Programme/Class: Certificate in Introductory Chemistry	Year: First	Semester: Second
		Paper-I Theory Subject: Chemistry
Course Code:	Course Title: Fundamentals of Chemistry-II	

Course outcomes: Upon successful completion of this course, the students will be able to describe the reactions shown by aliphatic and aromatic compounds. They will also able to understand the bonding in inorganic molecules, salient features of s- and p- block elements, different aspects of chemical kinetics, catalysis and first law of thermodynamics.

Credits: 4	Compulsory	
Max. Marks: 25+75	Min. Passing Marks: 33	
Total Number of Hours = 60		
Units	**Content**	**Number of Hours**
1	**Chemical Bonding-II:** Molecular Orbital Theory (MOT) as applied to diatomic homonuclear/heteronuclear inorganic molecules. MO diagrams and bond order of H_2, He_2, Li_2, Be_2, B_2, C_2, N_2, O_2, F_2, Ne_2, CO, NO, HF difference between VB and MO theories. Multicentre bonding in electron deficient molecules. Polarization of covalent molecules, Percentage ionic character from dipole and electronegativity difference. Polarizing power and polarizability; Fajan's rule. Metallic bond- Electron Pool, valence bond and MO theories. Weak interactions-hydrogen bonding in inorganic and organic molecules and van der Waals interactions.	**10**
2	**Salient Features of s- and p-Block Elements:** General discussion with respect to all periodic (Occurrence, electronic configuration, atomic & ionic radii, density, ionization potential, metallic behaviour, electropositive nature, electronegativity, electron affinity, hydration energy, flame colouration, photoelectric effect, polarization power, boiling and melting point) and chemical properties (reactivity towards water, oxygen, air and moisture, hydrogen, halogens, ammonia). Diagonal relationship, catenation, inert pair effect, pπ- pπ, dπ-pπ bond, chemistry of hydrides, halides, oxides and oxyacids of p-block elements. Silicates, Boron nitrogen compounds (borazene and boron nitrides), interhalogen compounds, basic property of iodine.	**10**

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar, Uttarakhand

Suggested Continuous Evaluation Methods: Students can be evaluated on the basis of score obtained in a mid-term exam, together with the performance of other activities which can include short exams, in-class or on-line tests, home assignments, group discussions or oral presentations.

Evaluation method	Marks
Home assignments, group discussions/ oral presentations	10 marks
Mid-term evaluation (written test)	10 marks
Attendance	05 marks

Course prerequisites: To study this course, a student must have passed Sem-I, Theory paper-I

Semester-II, Paper-II (Practical)
Course Title: Chemical Analysis -II

Programme/Class: Certificate in Introductory Chemistry	Year: First	**Semester:** Second
		Paper-2 Practical Subject: Chemistry
Course Code:		Course Title: Chemical Analysis –II

Course outcomes:
After completing this course, the students will be able to quantitatively find out the amount of acid or base in the samples, to qualitatively differentiate among different classes of organic compounds and to measure the relative viscosity of a given liquid.

Credits:2	**Compulsory**
Max. Marks: 10 + 40	Min. Passing Marks: 17

Total Number of Hours = 60

Unit	Contents	Number of Hours
1	Laboratory hazards and safety precautions	6
2	Inorganic exercise: Acid-base titrations; preparation of a solution in normal molar terms, its standardization using a primary standard solution, determination of the strength of unknown solution. For example: preparation of NaOH solution (secondary standard say N/10), preparation of $(COOH)_2$ solution (primary standard say N/10), standardization of NaOH solution titrating it against $(COOH)_2$ solution using phenolphthalein (indicator) and then determination of the strength of given HCl solution.	18

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN BASIC PHYSICS		
Programme: *Certificate Course in Basic Physics*	**Year: I**	**Semester: I Paper-I**
Subject: Physics		
Course Code:	**Course Title: Mechanics**	

Course Outcomes

1. Understanding of Vector Algebra and Vector Calculus.
2. Understand the physical interpretation of gradient, divergence and curl.
3. Study of gravitational field and potential and understanding of Kepler's laws of Planetary motion.
4. Understanding of different frames of references and conservation laws.
5. Understand the dynamics of rigid body and concept of moment of inertia. Study of moment of inertia of different bodies and its applications.
6. Study the properties of matter, response of the classical systems to external forces and their elastic deformation and its applications.
7. Comprehend the dynamics of Fluid and concept of viscosity and surface tension along with its applications.
8. Understanding the basic idea of waves and oscillations through Simple harmonic motion.

Credits: 04	**Core Compulsory**
Max. Marks: 100 **External Exam: 75** **Internal Assessment: 25**	**Min. Passing Marks: 33**

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	**Vectors Algebra** Vector algebra. Scalar and vector products, scalar and vector triple products, Derivative of a vector with respect to a parameter, Del operator, gradient, divergence and curl, Gauss divergence theorem and applications, Stokes curl theorem and applications; and Green's theorem, Line, surface and volume integral of a vector function.	**10**

Chaman Lal Mahavidhyalaya IQAC Coordinator Landhaura

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN BASIC PHYSICS		
Programme: *Certificate Course in Basic Physics*	**Year: I**	**Semester: I Practical**
Subject: Physics (Practical)		
Course Code	**Course Title:** Mechanical Properties of Matter (Practical)	

Course Outcomes:

1. Experimental physics has the most striking impact on the industry wherever the instruments are used to study and determine the mechanical properties.
2. Measurement precision and perfection is achieved through Lab Experiments.

Credits: 02	**Core Compulsory**
Max. Marks: 50 **Internal (Record File): 15** **External Practical Exam: 20** **External Viva Voce: 15**	**Min. Passing Marks: 17**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4

Unit	Topic	No. of Lectures
	Lab Experiment List	
	1. To study the Motion of Spring and calculate (a) Spring constant, (b) g and (c) Modulus of rigidity. 2. To determine the Moment of Inertia of a Flywheel. 3. To determine the Moment of Inertia of a Inertia table 4. To determine g and velocity for a freely falling body using Digital Timing Technique. 5. To determine Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method). 6. To determine the Young's Modulus of a Wire by Optical Lever Method. 7. To determine the Young's Modulus by bending of beam. 8. To determine the Modulus of Rigidity of a Wire by Maxwell'sneedle 9. To determine the elastic Constants of a wire by Searle's method. 10. To determine the value of g using Bar Pendulum. 11. To determine the value of g using Kater's Pendulum. 12. To determine Surface Tension. 13. To determine the modulus of rigidity by Barton's apparatus (Horizontal/Vertical)	**60**

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN BASIC PHYSICS

Programme: *Certificate Course in Basic Physics*	Year: I	Semester: II Paper-I

Subject: Physics

Course Code:	Course Title: **Electricity and Magnetism**

Course Outcomes:

1. Understanding of Electric Field and Potential. Evaluation of Electric Field and Potential for different types of charge distributions.
2. Study of Electric and Magnetic Fields in matter. Understand the concept of polarizability, Magnetization and Electric Displacement Vector.
3. Study of Steady and Varying electric currents.
4. Understanding of different aspects of alternating currents and its applications.
5. Understand the Magnetostatics, Lorentz Force and Energy stored in magnetic Field.
6. Comprehend the different aspects of Electromagnetic induction and its applications.
7. Understanding the relation between electricity and magnetism.

Credits: 04	Core Compulsory
Max. Marks: 100 External Exam: 75 Internal Assessment: 25	Min. Passing Marks: 33

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	**Electric field and potential** Coulomb law, Gauss' theory, its integral and differential forms, line integral of Electric field, Electric field and potential due to an arbitrary charge distribution. Electrostatic energy, energy stored in an Electric field. Electric field and potential due to long charged wire, Spherical shell, sphere, disc, dipole.	10
Unit II	**Electric and Magnetic fields in Matter** Moments of charge distributions, Polar and non-polar molecule, polarization vector, electric displacement vector, three electric vectors, dielectric susceptibility and permittivity, polarizability, Clausius-Mossotti relation Magnetization, magnetic susceptibility, diamagnetic, paramagnetic and ferromagnetic substances, Hysteresis and B-H curve, hysteresis loss.	10
Unit III	**Electric Currents (Steady and Varying)** Current density, Equation of Continuity, Ohm's law and electrical conductivity, Kirchhoff's Laws and their applications, Transient current, Growth and decay of D. C. in L - Rand R - C circuits, charging and discharging of a capacitor through a resistance.	10

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

CERTIFICATE COURSE IN BASIC PHYSICS

Programme: *Certificate Course in Basic Physics*	**Year: I**	**Semester: II Practical**
Subject: Physics (Practical)		
Course Code:	**Course Title:** Demonstrative Aspects of Electricity & Magnetism (Practical)	

Course Outcomes:

1. Experimental physics has the most striking impact on the industry wherever the instruments are used to study and determine the electric and magnetic properties.
2. Measurement precision and perfection is achieved through Lab Experiments.

Credits: 02	**Core Compulsory**
Max. Marks: 50 **Internal (Record File): 15** **External Practical Exam: 20** **External Viva Voce: 15**	**Min. Passing Marks: 17**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4

Unit	Topic	No. of Lectures
	Lab Experiment List	
	1. Frequency of A.C. Mains. 2. Melde's Experiment. 3. Calibration of Voltmeter by potentiometer. 4. Calibration of ammeter by potentiometer. 5. Specific resistance determination by Carey Foster bridge. 6. Conversion of a Galvanometer into a Voltmeter. 7. Conversion of a Galvanometer into Ammeter. 8. Variation of magnetic field along the axis of a current carrying circular coil. 9. Electrochemical equivalent. 10. De Sauty's bridge- C_1/ C_2 11. R_1/R_2 by potentiometer. 12. Study of R-C, L-C-R circuits. 13. Determination of self inductance, mutual inductance. 14. Magnetic field determination by search coil and ballistic galvanometer. 15. Sonometer.	**60**

Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Subject: Computer Science		
Programme/Class: Certificate	**Year:** 1st	**Semester:** I
Course Code: CS101	**Course Title:** Computer Fundamentals & Problem Solving	
Course outcomes:		
CO 1:	Bridge the fundamental concepts of computers with the present level of knowledge of the students.	
CO 2:	Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet	
CO 3:	Understand binary, hexadecimal and octal number systems and their arithmetic.	
CO 4:	Understand the difference between the top-down and bottom-up approach and concepts of object-oriented programming in connection with C++.	
CO 5:	Illustrate the process of data file manipulations using C++ and solve complex programming situations	
Credits: 4	**Core Compulsory and Minor elective for students of other Subject/Faculty**	
Max. Marks: 25+75	**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0		

Unit	Topic	No. of Lectures
I	**Introduction to Computer:** Computer System, Advantages and Disadvantages of Computer System, Evolution of computers, Generation of Computers, Classification of Computers, , Block Diagram of a Digital Computer, introduction to Input/ Output Devices.	6
II	**Memory:** Memory hierarchy, Registers (Types of Registers), Cache Memory. **Primary Memory** (RAM, how data is stored in a RAM, DRAM and SRAM. ROM (BIOS/Firmware & Types of ROM). **Secondary Memory** (Hard disk: Structure of a hard disk, how data is stored in a hard disk, concept of tracks, sectors, clusters, cylinders, Various Storage Devices (Magnetic Tape, Floppy Disks, Optical Disks, SD/MMC Memory cards, USB Pen drive).	8
III	**Software:** Software and its Need, Types of Software: - System software, Application software . **Operating System:** History of Operating System, Function of Operating System, OS classification (Batch, Multiprogramming, Multitasking, Multithreading, Multiprocessing, Multiuser, Time sharing, real time). Programming languages, **Translators:** Compiler, Interpreter and Assembler. **Network Fundamental**: Categories, Data flow, Topology.	6

Chaman Lal Mahavidhyalaya

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Subject: Computer Science		
Programme/Class: Certificate	**Year:** 1st	**Semester:** I
Course Code: CS103	**Course Title:** Lab: Computer Fundamentals & Problem Solving	
Course outcomes:	On completion of the course, the student will be able to:	
CO 1:	Develop programs with reusability.	
CO 2:	Construct programs for file handling Handle exceptions in programming.	
CO 3:	Apply applications for a range of problems using object-oriented programming Techniques.	
Credits: 2	**Core Compulsory**	
Max. Marks: 25+75	**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		

Unit	Topic	No. of Lectures
	Lab Experiment List	
	1. Study of C++ Standard library functions. 2. Implement Programs to showcase the use of branching. 3. Implement Programs to showcase the use of looping. 4. Demonstrate the uses of functions in C++. 5. Implement Programs to showcase the use of pointers. 6. Demonstrate difference in pass by value and pass by reference. 7. Implement programs to showcase the features of 1-D and 2-D Arrays. 8. Write a Program to illustrate New and Delete Keywords for dynamic memory allocation. 9. Write a program Illustrating Class Declarations, Definition, and Accessing Class Members. 10. Program to illustrate default constructor, parameterized constructor and copy constructors 11. Demonstrate OOPs Capabilities of C++. 12. Write a Program to Demonstrate the i) Operator Overloading. ii) Function Overloading. 13. Write a Program to Demonstrate Friend Function and Friend Class. 14. Write a Program to Access Members of a STUDENT Class Using Pointer to Object Members. d) Subtraction of matrices. e) Multiplication of matrices 15. Write C++ programs that illustrate how the following forms of inheritance are supported: a) Single inheritance b) Multiple inheritance c) Multi level inheritance d) Hierarchical inheritance 16. Write a C++ program that illustrates the order of execution of constructors and destructors when new class is derived from more than one base class. 17. Write a Program to Invoking Derived Class Member Through Base Class Pointer. 18. Write C++ Programs to demonstrate the power of STL Library. 19. Write a Program Containing a Possible Exception. Use a Try Block to throw it and a Catch Block to handle it properly. 20. Write a Program to Demonstrate the Catching of All Exceptions.	60

Chaman Lal Mahavidhyalaya IQAC Coordinator Haridwar

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt.-Haridwar, Uttarakhand

Subject: Computer Science		
Programme/Class: Certificate	**Year:** 1st	**Semester:** II
Course Code: CS102	**Course Title:** Data Structures & Algorithms	
Course outcomes:	On completion of the course, the student will be able to:	
CO 1:	Understand concepts such as Data Organizations, Need of Data Structures, Types of Data Structure, Algorithm Complexity, and Time-Space trade-off.	
CO 2:	Understand and apply data structures such as Stacks, Queues, Arrays, and Linked List.	
CO 3:	Understand the concept of different searching and sorting algorithms.	
Credits: 4	**Core Compulsory**	
Max. Marks: 25+75	**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0		

Unit	Topic	No. of Lectures
I	**Introduction to Data Structures & Algorithms:** Basic Terminology, Data type, Data object, Need of Data Structure, Types of Data Structure, Elementary Data Organization, Data Structure operations, Algorithm Complexity and Time-Space trade-off.	10
II	**Arrays & Linked Lists:** Arrays, Single and Multidimensional Arrays, address calculation, application of arrays, linked list: Representation and implementation of Singly Linked Lists, Header List, Traversing and Searching of Linked List, Overflow and Underflow, Insertion and deletion to and from Linked Lists, doubly linked list.	13
III	**Stacks & Queues:** Stacks: Array and linked representation and implementation of stack, Operations on Stacks: Push & Pop, Applications of stack: Conversion of Infix to Prefix and Postfix Expressions, Evaluation of postfix expression using stack. Recursion: Introduction, recursion, example of recursion, recursive functions. Queues: Array and linked representation and implementation of queues, Operations on Queue: Create, Insert, Delete, Full and Empty. Circular queue, Deques, and Priority Queues.	14
IV	**Trees & Graphs:** Trees: Basic terminology, Binary Trees, Binary tree representation, algebraic expressions, Complete Binary Tree., Traversing Binary trees, Binary Search Tree, searching BST, insertion and deletion in BST. Graph: Basic terminology, Traversal: BFS, DFS. Spanning Tree: Prims, Kruskal Algorithm, Dijkstra's Algorithm.	13
V	**Searching & Sorting:** Searching- Sequential search, binary search. Sorting algorithms with efficiency- Bubble sort, selection sort, Insertion sort, Merge sort, Quick Sort.	10

Suggested Readings:

- Data Structures- Seymour Lipschutz
- Data Structures using C and C++- Tanenbaum

Suggested equivalent online courses:

- https://nptel.ac.in/courses/106/102/106102064/
- https://nptel.ac.in/courses/106/106/106106127/

This course can be opted as an elective by the students of following subjects: NONE

Chaman Lal Mahavidhyalaya IQAC Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Subject: Computer Science			
Programme/Class: Certificate		**Year:** 1st	**Semester:** II
Course Code: CS104		**Course Title:** Lab: Data Structures & Algorithms	
Course outcomes:	On completion of the course, the student will be able to:		
CO 1:	Implement various data structures in C++		
CO 2:	Implement various Searching and Sorting algorithm in C++ and understand their performance in term of Space and Time complexity.		
CO 3:	Implement tree and graphs in C++		
Credits: 2		**Core Compulsory**	
Max. Marks: 25+75		**Min. Passing Marks:**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4			

Unit	Topic	No. of Lectures
	Lab Experiment List	
	Write a program in c++ to implement 1) 1-D, 2-D arrays and different operations in an array. 2) Operations in Singly linked list. 3) Operations in Doubly linked list. 4) Stack operations using arrays. 5) Queue operations using arrays. 6) Stack operations using linked list. 7) Queue operations using linked list. 8) Recursion. 9) Linear search. 10) Binary search. 11) Bubble sort. 12) Selection sort 13) Insertion sort 14) Merge sort 15) Quick Sort. 16) Tree traversal. 17) Graph traversal. 18) Insertion, Deletion and searching in BST.	60

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluation shall be based on allotted Assignment and Class Tests. The marks shall

Internal Assessment	Marks
Record File	5
Viva Voce	5
Practical Assessment	15

Chaman Lal Mahavidhyalaya Lansdowne (Pauri Garhwal) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

- To acquire knowledge of different technique to stain microorganism and how they can visualize the microorganisms in different types of microscope.
- To acquire an overall knowledge on the morphology and functions of the structures with the prokaryotes and eukaryotes.
- To become familiar with general characteristic of prokaryotic and Eukaryotic microbes and also acquire Knowledge of cellular organization, life cycle and economic importance of prokaryotic

Learning outcomes:

At the end of course student will be able

- To know the different milestones in the history of microbiology, importance of Vedic microbiology and scope of microbiology
- To understand and know the application of techniques used in the field of Microbiology.
- Identify key constituent prokaryotes cell and their function.
- To classify the prokaryotic cell by conventional as well as modern methods.
- To stain the bacteria with simple, differential and special stain.

UNIT–I

History, scope, spontaneous generation vs biogenesis, golden age of microbiology branches of microbiology and relevance of microbiology; germ theory of disease Contribution of Antony Van Leeuwenhoek, Edward Jenner, Louis Pasteur, Robert Koch, Joseph Lister, Alexander Fleming, Ivanowsky, Waksman,. 5 kingdom classification of Whittaker and 3 kingdom classification , 3 Domain System Classification .

(8 Lectures)

UNIT-II

Bacterial morphology Ultrastructure of bacterial cell, cell wall, plasma membrane, capsule, flagella, nucleoid,. General features of Archeobacteria, Rickettsia, Chlamydia, Mollicutes, Actinomycetes and Cynobacteria.

The viruses General properties nomenclature, Classification and Morphology structure of animal viruses: Influenza, HIV; plant viruses: TMV; bacterial viruses: Lambda Phage and T4 bacteriophage; general features of Prions and Viroids. Fungi General characteristics, classification & reproduction of Saccharomyces, Aspergllus. Protozoa General characteristics, classification & reproduction of Giardia, Entamoeba. **(14lecture)**

UNIT III

Techniques in microbiology Principles of microscopy, construction and application ofCompound Microscope Bright field Microscopy, Dark field Microscopy , Electron Microscopy- TEM and SEM, Principles, and application of Autoclave; BOD Incubator & Incubator, ; Laminar flow; Oven & Spectrophotometer (UV&Vis) **(14 Lectures)**

UNIT-IV

Sterilization techniques and control of microorganisms Definitions of terms- sterilization and disinfection; Sterilization by Physical methods- Use of moist heat- heat under pressure(autoclave), pasteurization, Use of dry heat- hot air oven, Filtration- membrane filter, HEPA filter; Radiation- Ionizing and non- ionizing; Chemical methods- (Alcohols, aldehydes, phenols, ethylene oxide). Culture media and its types; Methods for enumeration & isolation of microorganisms using pour plate, spread plate technique, Serial dilution and streak plate; Isolation of anaerobic microorganisms: Maintenance and preservation of pure culture. Staining techniques, principles, procedures and applications of Simple staining, negative staining; Differential staining- Gram's staining, acid fast staining, Leishman's staining, Giemsa's staining, Structural staining capsule, endospore and flagella staining. **(14 Lectures)**

UNIT-V

Biostatistics Introduction to biostatistics – definition statistical methods, biological measurement, kinds of biological data; Measure of central tendency – Mean, median, mode, standard deviation; Collection of data, sampling and sampling design, classification and tabulation, types of representation, graphic bio diagrams. Student T Test **(10 Lectures)**

BMDSC102P Experiments in Basic Microbiology **Credit 2**

1. Good laboratory practice in Microbiology and safety measures.

Prof. Gulshan Kumar Dhingra
Dean Faculty of Science
Professor & Head Botany
M.S. Sridev Suman Uttarakhand
University Campus Rishikesh

Total Hours: 60

Learning objectives:

- To understand how microorganism adapt to different environment and their interaction with different habitat and also the spread of microorganism from the environment.
- To know different techniques of detection of air , soil and aquatic
- To acquire knowledge of treating sewage and industrial water through different means.
- Students will learn about positive or negative interaction of microorganisms with soil.
- To impart in-depth information on soil and agriculture.
- To know the importance of biofertilizers and biopesticides.
- To make the students to know about various techniques involved in biofertilizers and biopesticides production

Learning outcomes:

At the end of course student will be able to

- Isolate and identify pathogenic microorganism from air, soil and water habitat
- Characterize the waste water and also explain the method that can be utilized in waste water treatment
- Explain or suggest different biocontrol methodto control pests.
- Develop biofertilizer or biopesticide in lab conditions .
- Isolate *Rhizobium* from the root nodule of leguminous plants.

UNIT - I

Microorganisms in different habitats: brief account of heterogeneous group of microorganisms, different habitats such as soil, water, air; factors affecting microbial population in nature. Water microbiology: type of water, parameters of aquatic environment (temperature, light, pressure, pH, turbidity and organic constituents); Microflora of aquatic environmental. Treatment and safety of drinking water; Methods to detect potability of water sample: Standard qualitative procedure- SPC, MPN test, Presumptive, confirmed and completed test for faecal-coliforms, Membrane filter technique.

(12 Lectures)

UNIT – II

Microbiology of domestic and waste water: sewage/waste water (physical, chemical and microbiological analysis), BOD and COD; Waste water treatment, Solid waste management: solid waste processing (landfills, composting and anaerobic sludge digestion). Effect of solid waste on public health; Regulation for disposal of bio hazardous materials,

(14 Lectures)

UNIT - III

Principle of Bioremediation, decomposition and degradation of common organic Matter inorganic matter, biosurfactants.

(10 Lectures)

UNIT – IV

Microbial Interactions Microbe interactions: Mutualism, synergism, commensalism, competition, amensalism, parasitism, predation; Microbe-Plant interaction: positive-negative interaction; Microbe-Animal interaction: positive-negative interaction; Microorganism of rhizosphere, rhizoplane and phylloplane, mycorrhiza types and its applications

(12 Lectures)

UNIT -V

Biofertilizer Definition, Types- Bacterial, Fungal, Phosphate solubilizer, BGA & associative; Mode of application; Advantages and Disadvantages of Biofertilizer. Introduction and definition and Types of biopesticides; **(12 Lectures)**

BMDSC102P Experiments in Environmental and Agriculture Microbiology Credit 2

Dr. Prabhat Kumar Singh
M.Sc, Ph.D, Asst. Professor
Department of Microbiology
Chaman Lal Degree College
Lanchaura, Roorkee, Haridwar (U.K.)

Prof. Gulshan Kumar Dhingra
Dean Faculty of Science
Professor & Head Botany
Pt. L.M.S. Sudev Suman Uttarakhand
University Campus, Rishikesh

Master in Faculty (Zoology)				
5	IX	PAPER- I	Systematics And Applied Entomology	4+1
		PAPER- II	Biology Of Insects (Morphology, Physiology & Development)	4+1
		PAPER- III	Economic Zoology And Vermicology	4+1
		PAPER- IV	Wildlife Conservation	4+1
		Industrial Training/Survey/ Research Project	With reference to Major Papers of Semester-IX	04
	X	PAPER- I	Animal Biotechnology	4+1
		PAPER- II	(Animal Cell Culture)+	4+1
		PAPER- III	Animal Biotechnology (Transgenics, Cloning And IPR)	4+1
		PAPER- IV	Medical Laboratory Techniques Wildlife Conservation	4+1
		Industrial Training/Survey/ Research Project	With reference to Major Papers of Semester-X	04

Course Objective (CO):

- The programme in Zoology aims to equip students with recent advances in Zoology from organismic to reductionist biology.
- It also aims to empower students to understand the challenges of society and the country that falls into the realms of Zoology, such as Aquaculture, Reproductive health, Behavior and Biological time keeping, Cancer Biology, Microbiome and their roles in health and diseases, Bioremediation of pollutants and pesticides, etc.
- It also offers students to a series of elective courses so that they can choose to specialize in the specific area of their interests in Zoology.
- The open elective has been chosen to attract students from diverse interdisciplinary areas of sciences, such as Anthropology, Environmental studies, Biomedical Sciences, etc.
- This course is designed to ignite the inquisitive mind to enter in to research in interdisciplinary areas. The fourth semester offers a total of 16 elective courses, which for logistics of programme management, are divided in to four streams, where a student has to choose a stream.
- In the entire course, the major emphasis is on skill-based training into socially relevant areas of Zoology.
- It is expected that a student after successfully completing the programme would sufficiently be skilled and empowered to solve the problems in the realms of Zoology and its allied areas.
- They would have plethora of job opportunities in the education, environment, agriculture-based, and health related sectors.
- The bright and ignited mind may enter into research in the contemporary areas of Zoological/Biological Sciences.
- The broad skills and the deeper knowledge in the field would make them highly successful and excellent researcher in advanced areas of research in the Biological sciences.

10/8/22

5

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Sri Dev Suman Uttarakhand University
Badshahithaul (Tehri Garhwal)

B.Sc. Home Science
(Semester System)

Learning outcomes of 3yr degree programme BSc. Home Science:

The objectives of the present B.Sc. Program Home Science course are:

- Understand and appreciate the role of interdisciplinary sciences in the development and well- being of individuals, families and communities
- Learn about the sciences and technologies that enhance quality the life of people
- Acquire professional and entrepreneurial skills for economic empowerment of the student in particular, and community in general
- Develop professional skills in food and nutrition, textiles, housing, product making, communication technologies and human development
- Take science from the laboratory to the people to improve quality of life of people.

GENERAL INSTRUCTIONS

- The duration of the course Bachelor of Science in Home Science shall be of three years (SIX semester)
- In each year, there shall be 06 theory papers and 03 practical paper.
- Each theory papers will be of 100 marks which includes 80 marks (External) and 20 marks (Internal).
- The practical will be of 50 marks, which includes 40 marks (External) and 10 marks (Internal) in each year.
- In each theory paper, the candidates will be required to attempt all the sections (A) and (B) of concern question paper. Section (A) will consist of eight questions. Student has to attempt four questions out of eight from this section. Section (B) will consist of eight questions and student has to attend any four questions.
- The allotted time for each theory paper will be 2:30 min.

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★
I.Q.A.C. Cordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt.-Haridwar

Subject: Computer Science		
Programme/Class: Certificate	Year: 1st	Semester: I
Course Code: CS101	Course Title: Computer Fundamentals & Problem Solving	
Course outcomes:		
CO 1:	Bridge the fundamental concepts of computers with the present level of knowledge of the students.	
CO 2:	Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet	
CO 3:	Understand binary, hexadecimal and octal number systems and their arithmetic.	
CO 4:	Understand the difference between the top-down and bottom-up approach and concepts of object-oriented programming in connection with C++.	
CO 5:	Illustrate the process of data file manipulations using C++ and apply virtual and pure virtual function & complex programming situations.	
Credits: 4		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks:
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0		

Unit	Topic	No. of Lectures
I	**Introduction to Computer:** Computer System, Advantages and Disadvantages of Computer System, Evolution of computers, Generation of Computers, Classification of Computers. , Block Diagram of a Digital Computer, introduction to Input/ Output Devices.	6
II	**Memory:** Memory hierarchy, Registers (Types of Registers), Cache Memory. **Primary Memory** (RAM, how data is stored in a RAM, DRAM and SRAM. ROM (BIOS/Firmware & Types of ROM). **Secondary Memory** (Hard disk: Structure of a hard disk, how data is stored in a hard disk, concept of tracks, sectors, clusters, cylinders, Various Storage Devices (Magnetic Tape, Floppy Disks, Optical Disks, SD/MMC Memory cards, USB Pen drive).	8
III	**Software:** Software and its Need, Types of Software: - System software, software. Application **Operating System:** History of Operating System, Function of Operating System, OS classification (Batch, Multiprogramming, Multitasking, Multithreading, Multiprocessing, Multiuser, Time sharing, real time). Programming languages, **Translators:** Compiler, Interpreter and Assembler. **Network Fundamental**: Categories, Data flow, Topology.	6
IV	**Fundamentals of C++:** Data Types and Sizes, Declaration of variables, Modifiers, Identifiers and keywords, Symbolic constants. Operators, Precedence and order of evaluation. **Control statements:** if-else, else-if clause, switch. Loops: for, while, do-while, continue. break, **Functions:** Defining a function, function prototyping and function calls, function arguments, passing by reference, inline functions, and default arguments. **Arrays:** linear arrays, multidimensional arrays, passing arrays to functions.	8
V	**Object Oriented Concepts**: Elements of Object-Oriented programming, Objects, Classes, and OOPs features. **Classes & Objects**: Specifying a Class, Creating Objects, Accessing Class members, defining member function, Outside Member Functions as inline, Accessing Member Functions within the class, Static data member, Access Specifiers, Constructors and Destructors, Exception Handling basics	8
Vi	**Operator Overloading**: Definition, Overloadable Operators, Unary and Binary Operators overloading through Member Functions and Friend Functions,	8

Chaman Lal Mahavidhyalya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

Subject: Computer Science		
Programme/Class: Certificate	Year: 1st	Semester: I
Course Code: CS103	Course Title: Lab: Computer Fundamentals & Problem Solving	
Course outcomes:	On completion of the course, the student will be able to:	
CO 1:	Develop programs with reusability.	
CO 2:	Construct programs for file handling Handle exceptions in programming.	
CO 3:	Apply applications for a range of problems using object-oriented programming Techniques.	
Credits: 2	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		

Unit	Topic	No. of Lectures
	Lab Experiment List	
	1. Study of C++ Standard library functions. 2. Write a C++ program to find the sum of individual digits of a positive integer. 3. Write a C++ program to generate the first n terms of the sequence. 4. Write a C++ program to generate all the prime numbers between 1 and n, where n is a value supplied by the user. 5. Write a C++ program to find both the largest and smallest number in a list of integers. 6. Write a C++ program to sort a list of numbers in ascending order. 7. Write a Program to illustrate New and Delete Keywords for dynamic memory allocation 8. Write a program illustrating Class Declarations, Definition, and Accessing Class Members. 9. Program to illustrate default constructor, parameterized constructor and copy constructors 10. Write a Program to Implement a Class STUDENT having Following Members:	60

Member	Description
Data members	
sname	Name of the student
Marks array	Marks of the student
total	Total marks obtained
tmax	Total maximum marks

Member functions	
Member	Description
assign()	Assign Initial Values
compute()	to Compute Total, Average
display()	to Display the Data.

Chaman Lal Mahavidhyalaya ★ I.Q.A.C. Cordinator ★ Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

Subject: Computer Science		
Programme/Class: Certificate	Year: 1st	Semester: II
Course Code: CS102	Course Title: Data Structures & Algorithms	

Course outcomes:	On completion of the course, the student will be able to:
CO 1:	Understand concepts such as Data Organizations, Need of Data Structures, Types of Data Structure, Algorithm Complexity, and Time-Space trade-off.
CO 2:	Understand and apply data structures such as Stacks, Queues, Arrays, and Linked List.
CO 3:	Understand the concept of different searching and sorting algorithms.

Credits: 4	Core Compulsory
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
I	**Introduction to Data Structures & Algorithms:** Basic Terminology, Data type, Data object, Need of Data Structure, Types of Data Structure, Elementary Data Organization, Data Structure operations, Algorithm Complexity and Time-Space trade-off.	10
II	**Arrays & Linked Lists:** Arrays, Single and Multidimensional Arrays, address calculation, application of arrays, linked list: Representation and implementation of Singly Linked Lists, Header List, Traversing and Searching of Linked List, Overflow and Underflow, Insertion and deletion to and from Linked Lists, doubly linked list.	13
III	**Stacks & Queues:** Stacks: Array and linked representation and implementation of stack, Operations on Stacks: Push & Pop, Applications of stack: Conversion of Infix to Prefix and Postfix Expressions, Evaluation of postfix expression using stack. Recursion: Introduction, recursion in C, example of recursion, recursive functions. Queues: Array and linked representation and implementation of queues, Operations on Queue: Create, Insert, Delete, Full and Empty. Circular queue, Deques, and Priority Queues.	14
IV	**Trees & Graphs:** Trees: Basic terminology, Binary Trees, Binary tree representation, algebraic expressions, Complete Binary Tree., Traversing Binary trees, Binary Search Tree, searching BST, insertion and deletion in BST. Graph: Basic terminology, Traversal: BFS, DFS. Spanning Tree: Prims, Kruskal Algorithm, Dijkstra's Algorithm.	13
V	**Searching & Sorting:** Searching- Sequential search, binary search. Sorting algorithms with efficiency- Bubble sort, selection sort, Insertion sort, Merge sort, Quick Sort, Counting sort.	10

Suggested Readings:

- Data Structures- Seymour Lipschutz
- Data Structures using C and C++- Tanenbaum

Suggested equivalent online courses:

- https://onlinecourses.nptel.ac.in/noc19_cs47/preview
- https://onlinecourses.nptel.ac.in/noc19_cs06/preview

This course can be opted as an elective by the students of following subjects: NONE

Suggested Continuous Evaluation Methods:

Continuous Internal Evaluation shall be based on allotted Assignment and Class Tests. The marks shall

Internal Assessment	Marks
Class Interaction	5
Quiz/ Assignments	5
Seminar/Presentation	5

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Subject: Computer Science			
Programme/Class: Certificate		Year: 1st	Semester: II
Course Code: CS104		Course Title: Lab: Data Structures & Algorithms	
Course outcomes:	On completion of the course, the student will be able to:		
CO 1:	Implement various data structures in C++		
CO 2:	Implement various Searching and Sorting algorithm in C++ and understand their performance in term of Space and Time complexity.		
CO 3:	Implement tree and graphs in C++		
Credits: 2		Core Compulsory	
Max. Marks: 25+75		Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4			

Unit	Topic	No. of Lectures
	Lab Experiment List	
	Write a program in c++ to implement 1) 1-D, 2-D arrays and different operations in an array. 2) Operations in Singly linked list. 3) Operations in Doubly linked list. 4) Stack operations using arrays. 5) Queue operations using arrays. 6) Stack operations using linked list. 7) Queue operations using linked list. 8) Recursion. 9) Linear search. 10) Binary search. 11) Bubble sort. 12) Selection sort 13) Insertion sort 14) Merge sort 15) Quick Sort. 16) Counting Sort. 17) Tree traversal. 18) Graph traversal. 19) Insertion, Deletion and searching in BST.	60

Suggested Continuous Evaluation Methods:
Continuous Internal Evaluation shall be based on allotted Assignment and Class Tests. The marks shall

Internal Assessment	Marks
Record File	5
Viva Voce	5
Practical Assessment	15
Total	25

Chaman Lal Mahavidhyalaya ★ I.Q.A.C. Coordinator ★ Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt. Hard

Semester I

Paper: Physical & Structural Geology

Course outcome: After successful completion of this course students will understandthe origin of solar system, and dynamicsof earth's surface and interiors,platetectonicprocesses,seismicity, andvolcanism. They will be enhanced by the knowledge regarding formation of different landforms and the physical, chemical and biological processes operating upon the earth. After completing this course they will able to recognize and interpret the geological structures formed as a result of deformation.

Course type, paper & Credits, paper & credit	Content	Teaching hours
Theory Physical & Structural Geology (04)	Unit I: Introduction to geology and its scope, Earth and solar system: origin, size, shape, mass, density and its atmosphere. A brief account of various theories regarding the origin of the earth; Internal structure of the earth and its composition. Earth's gravity and magnetic fields, and thermal structure. Law of uniformitarianism.	15
	Unit II: Earth's internal and external processes: The rock cycle. Earthquakes: nature of seismic waves, their intensity and magnitude; Volcanoes: types, products and causes of volcanism. Weathering and its types; Erosion, transportation and deposition by rivers, wind, glaciers, and waves and underground water, and their related landforms, Land forms; India in nutshell	15
	Unit III: Introduction to Structural Geology; basic concept of stress and strain. Elementary idea of bed, dip and strike; Outcrop, effects of various structures on outcrop. Clinometer/Brunton compass and its use. Elementary idea of types of deformation; Folds: nomenclature and types of folds.	15
	Unit IV: Faults: nomenclature, geometrical and genetic classifications, normal, thrust and slip faults; Definition, kinds and significance of joints and unconformity.	15
Practical (02)	Section A: Physical Geology: Study of important geomorphological models; Reading topographical maps of the Survey of India; Identification of geomorphic features.	60
	Section B: Structural Geology: Identification of different types of folds/faults from block models; Exercises on structural problems: preparation of cross section profile from a geological map.	
	Section C: Geological Field Training: Students will be required to carry out one week fieldwork in a suitable geological area to study the elementary aspects of field geology and submit a report thereon.	

Chaman Lal Mahavidhyalaya ★ I.Q.A.C. Coordinator ★ Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Semester II

Paper: Elements of Mineralogy & Gemology

Course outcome: After completing this course, student will gain basic and fundamental knowledge about the various mineral groups with regard to their physical and optical properties along with an idea about crystal systems, their symmetryelements andnotation systems. Apart from this, basic knowledge about the instruments such as physical tools and polarizing microscope etc. will also be imparted. Basic knowledge about gemstones will be given to train the students in recognizing and using the semiprecious and precious minerals and gemstones, which make them a professional in geology and newly emerging medicinal gemology field of therapy.

Course type, paper & Credits	Content	Teaching hours
Theory Elements of Mineralogy & Gemology (04)	Unit I: Crystals and their characters: Crystal form, face, edge, solid angle; Interfacial angle and their measurements; Crystallographic axes and angles. Crystal parameters, Weiss and Miller system of notations. Symmetry elements and description of normal class of Isometric, Tetragonal, Hexagonal, Orthorhombic, Monoclinic and Triclinic systems. Twinning and twin laws.	15
	Unit II: Definition and characters of mineral; Chemical composition and diagnostic physical properties of common rock forming minerals: quartz, feldspar, pyroxene, amphibole, garnet, olivine and mica families.	15
	Unit III: Polarizing microscope, its parts and functioning; Ordinary and polarized lights; Common optical properties of minerals observed under ordinary, polarized lights and crossed nicols. Optical properties of some common rock forming minerals (Quartz, Orthoclase, Microcline, Olivine, Augite, Hornblende, Muscovite, Biotite, Garnet).	15
	Unit IV: Definition and scope of Gemology. Basic qualities of a gem, Physical properties, Optical properties & optical effects in gemstones. Theory of gem cutting techniques, & application crystallography in Gemology. Instruments used in gem identification. Techniques, limitation and precautions of gem identification.	15
Practical (02)	Study of physical properties of minerals such as Olivine, Garnet, Muscovite, Biotite, Beryl, Tourmaline, Hornblende, Gypsum, and its varieties, Quartz and its varieties, Orthoclase, Microcline, Plagioclase, Chalcedony, Barite, Augite, Chalcedony, Agate, Jasper, Flint. Use of polarizing microscope; Study of optical properties of common rock forming minerals such as Olivine, Garnet, Muscovite, Biotite, Hornblende, Tourmaline, Augite, Quartz, orthoclase, Microcline, Plagioclase etc.	60

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand

Semester III

Paper Petrology

Course outcome: The prime aim of this course is to characterize, classify, and deduce the genesis of individual rock, and rocks in association making a rock suite or complex or succession. Students will characterize, identify and name different types of rocks in the field and in hand-specimens, and rock-thin sections, and finally they will propose the rock-forming processes (petrogenesis). The most common criteria are structure, texture, mineral assemblage and modes present in a particular rock that are examined at megascopic and microscopic levels.

Course type, paper & Credits	Content	Teaching hours
Theory Petrology (04)	Unit I: Introduction to igneous petrology; Magma: definition, composition, properties, types and origin; Plutonic, hypabyssal, and volcanic magma emplacement; Forms of igneous rocks; textures of igneous rocks. Reaction principle; Bowen's reaction series, Differentiation and Assimilation; Crystallization of uni-component and bi-component (mixed-crystals).Basic classification of igneous rocks; IUGS classification of igneous rocks. Detailed petrographic description of Granite, Granodiorite, Syenite, Diorite, Rhyolite and Basalt.	15
	Unit II: Introduction to metamorphic petrology; Process and products of metamorphism; Type of metamorphism. Factors, zones and grade of metamorphism; Textures, structures and classification of metamorphic rocks. Petrographic details of some important metamorphic rocks, such as slate, schists, gneiss, quartzite, and marble.	15
	Unit III: Introduction to sedimentary petrology; Processes of formation of sedimentary rocks. Clastic and non-clastic sedimentary rocks. Textures and structures of sedimentary rocks. Palaeocurrent and sediment dispersal.	15
	Unit IV: Concept of provenance and basins. Elementary knowledge about continental and oceanic sedimentary basins. Concept of sedimentary environments and facies. Petrographic details of important siliciclastic and carbonate rocks such as-conglomerate, breccia, sandstone, shale, and limestone.	15
Practical (02)	Section A: Petrology: Study of common igneous, metamorphic and sedimentary rocks in hand specimen and thin sections. Study of common structures in igneous, metamorphic and sedimentary rocks.	60
	Section B: Geological Field Training : Students will be required to carry out one week fieldwork in a suitable geological area to study the elementary aspects of field geology and submit a report thereon.	

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. / B.Sc. I (SEMESTER-I) PAPER-I

Matrices, Trigonometry and Differential Calculus

Programme: Certificate Class: B.A. / B.Sc.	Year: First	Semester: First
Course Code: UGMAT101T	Subject: Mathematics Course Title: Matrices, Trigonometry and Differential Calculus	

Course outcomes:

CO1: The programme outcome is to give foundation knowledge for the students to understand basics of mathematics including applied aspect for developing enhanced quantitative skills and pursuing higher mathematics and research as well.
CO2: By the time students complete the course they will have wide ranging application of the subject and have the knowledge of matrices and basics of differentiation.
CO3: The student will be able to sum the trigonometric series of real and complex numbers and separate the trigonometric function in form of A+iB.
CO4: The main objective of the course is to equip the student with necessary analytic and technical skills. By applying the principles of differentiation, he learns to solve a variety of practical problems in science and engineering.
CO5: The student is equipped with standard concepts and tools at an intermediate to advance level that will serve him well towards taking more advance level course in mathematics.

Credits: 4	Core Compulsory / Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures-Tutorials – Practical (in hours per week): L-T-P:4-0-0

Part-A
Matrices

Unit	Topics	No. of Lectures
I	Matrix introduction, matrix operations with their properties, symmetric, skew-symmetric, Hermitian and skew- Hermitian matrices, idempotent, nilpotent, involuntary, orthogonal and unitary matrices, singular and non-singular matrices, elementary operations on matrices, adjoint and inverse of a matrix, singular and non-singular matrices, negative integral powers of a non-singular matrix, Trace of a matrix.	8
II	Rank of a matrix, elementary transformations of a matrix and invariance of rank through elementary transformations, normal form of a matrix, elementary matrices, rank of the sum and product of two matrices, inverse of a non-singular matrix through elementary row transformations, equivalence of matrices.	7
III	Solutions of a system of linear equations, condition of consistency and nature of the general solution of a system of linear non-homogeneous equations.	5

Part-B
Trigonometry

Unit	Topics	No. of Lectures
IV	Trigonometric or circular and hyperbolic function of complex variable together with their inverses, De Moivre's Theorem and its applications, Euler's theorem, relation between trigonometric and hyperbolic function, Exponential function of a complex variable, Logarithms of complex variable, Properties of logarithmic function, Separation into real and imaginary parts	6
V	Gregory's series, Value of π by different series, Summation of Trigonometric series by C+iS method based on Arithmetic Progression, Geometric Progression, Logarithms and Binomial expansions, Summation of Trigonometric series by difference method.	6

10/8

10/08/2022

10/08/2022

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar, Uttarakhand

B.A./ B.Sc. I (SEMESTER-I) Paper-II

Practical

Programme: Certificate Class: B.A./B.Sc.	Year: First	Semester: First
Course Code: UGMAT102P	Subject: Mathematics	
Course Title: Practical		

Course outcomes:

CO1: The main objective of the course is too familiar the student with different computer software such as Mathematica /MATLAB /Maple /Scilab/Maxima etc.

CO2. The students will be able to compute various operations on matrices by using different computer software such as Mathematica /MATLAB /Maple /Scilab/Maxima etc.

CO2. The students will also be able to compute n^{th} derivative of various functions by using different computer software.

Credits:2	
Max. Marks: 25+75	Core Compulsory/Elective
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 0-0-0	Min. Passing Marks:

Unit	Topics	No. of Lectures
	Practical / Lab work to be performed in Computer Lab. List of the practical to be done using R/Python/Mathematica/MATLAB/Maple/Scilab/Maxima etc. 1. Introduction to the software and commands related to the topic. 2. Computation of addition and subtraction of matrices. 3. Computation of multiplication of matrices. 4. Computation of Trace and Transpose of Matrix. 5. Computation of Rank of matrix. 6. Computation of Inverse of a Matrix. 7. Solving the system of homogeneous and non-homogeneous linear algebraic equations. 8. Finding the n^{th} Derivative of e^{ax}, trigonometric and hyperbolic functions. 9. Finding the n^{th} Derivative of algebraic and logarithmic functions. 10. Finding the n^{th} Derivative of $e^{ax}\sin(bx+c)$, $e^{ax}\cos(bx+c)$. 11. Finding the Taylor's and Maclaurin's expansions of the given functions.	60

Suggested Readings:

This course can be opted as an elective by the students of following subjects: Engg. and Tech. (UG), B.Sc. (C.S.)

Suggested Continuous Evaluation Methods: Max. Marks: 25

S.N.	Assessment Type	Max. Marks
1	Class Tests	10
2	Online Quizzes/ Objective Tests	5
3	Presentation	5
4	Assignment	5

Course prerequisites: To study this course a student must have subject Mathematics in class 12th.

Suggested equivalent online courses:

Further Suggestions:

10/08/2022 10/08/2022

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A. / B.Sc. I (SEMESTER-II) PAPER – I
Integral calculus and Vector Analysis

Programme: Certificate Class: B.A./B.Sc.	Year: First	Semester: Second
Course Code: UGMAT201T	Subject: Mathematics	
Course outcomes:	Course Title: Integral calculus and Vector Analysis	

CO1: The Programme outcome is to give foundation knowledge for the students to understand basics of mathematics including applied aspect for developing enhanced quantitative skills and pursuing higher mathematics and research as well.
CO2: By the time students complete the course they will have wide ranging application of the subject and have the knowledge of surface area and volume of shapes.
CO3: The main objective of the course is to equip the student with necessary analytic and technical skills. By applying the principles of integral he learns to solve a variety of practical problems in science and engineering.
CO4: The student is equipped with standard concepts and tools at an intermediate to advance level that will serve him well towards taking more advance level course in mathematics.

Credits: 6	
Max. Marks: 25+75	Core Compulsory/Elective
	Min. Passing Marks:
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 6-0-0	

PART-A
Integral Calculus

Unit	Topics	No of Lectures
I	Integral as a limit of sum, Properties of Definite integrals, Fundamental theorem of integral calculus, Summation of series by integration, Infinite integrals, Differentiation and integration under the integral sign.	12
II	Beta function, Properties and various forms, Gamma function, Recurrence formula and other relations, Relation between Beta and Gamma function, Evaluation of integrals using Beta and Gamma functions.	11
III	Double integrals, Repeated integrals, Evaluation of Double integrals, Double integral in polar coordinates, Change of variables, Change of order of integration in Double integrals, Triple integrals, Evaluation of Triple integrals, Drichlet's theorem and its Liovelle's extension.	12
IV	Area bounded by curves (quadrature), Rectification (length of curves), Volumes and Surfaces of Solids of revolution.	11

PART- B
Vector Analysis

Unit	Topics	No. of Lectures
V	Triple product, Reciprocal vectors, Product of four vectors, General equation of a Plane, Normal and Intercept forms, Two sides of a plane, Length of perpendicular from a point to a plane, Angle between two planes, System of planes.	11
VI	Direction Cosines and Direction ratios of a line, Projection on a straight line, Equation of a line, Symmetrical and unsymmetrical forms, Angle between a line and a plane, Coplanar lines, Lines of shortest distance, Length of perpendicular from a point to a line, Intersection of three planes, Transformation of coordinates.	12
VII	Ordinary differentiation of vectors, Velocity and Acceleration, Differential operator-Del, Gradient, Divergence and Curl.	11
VIII	Line, Surface and volume integrals, Simple applications of Gauss divergence theorem, Green's theorem and Stokes theorem (without proof).	10

10/08/2022

10/08/2022

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

B.A./B.Sc. II (SEMESTER-III) PAPER-I Group Theory and Analytical Geometry

Programme: Diploma Class: B.A./B.Sc.	Year: Second	Semester: Third
Subject: Mathematics		
Course Code: UGMAT301T	Course Title: Group Theory and Analytical Geometry	

Course outcomes:

CO1: Group theory is one of the building blocks of modern algebra. Objective of this course is to introduce students to basic concepts of Group and their properties.
CO2: This course will lead the student to basic course in advanced mathematics and geometry.
CO3 The subjects learn and visualize the fundamental ideas about coordinate geometry and learn to describe some of the surface by using analytical geometry.
CO4: On successful completion of the course students have gained knowledge about regular geometrical figures and their properties. They have the foundation for higher course in geometry.
CO5: On successful completion of the course students should have knowledge about higher different mathematical methods and will help him in going for higher studies and research.

Credits: 6	Core Compulsory / Elective
Max. Marks: 25+75	Min. Passing Marks:
Total No. of Lectures - Tutorials-Practical (in hours per week): L-T-P: 6-0-0	

Part-A
Group Theory

Unit	Topics	No. of Lectures
I	Cartesian product of Sets, Functions or mappings, Binary operations, Relation, Equivalence relations and partitions, Congruence Modulo n, Definition of a group with examples and simple properties, Abelian group, Finite and infinite group, Order of a finite group, General properties of groups, Composition table for finite groups	12
II	An Alternative set of postulates of groups, Subgroups, Permutations, Cyclic Permutations, Even and odd permutations, group of Permutations alternating group, Integral power of an element of a group, Order of an element of a group, Group homomorphism, Isomorphism on groups, the relation of isomorphism in the set of all groups Complexes and subgroup of a group, theorems on subgroups, Coset decomposition, Lagrange's theorem and its consequences, Ceyley's theorem, Cyclic group, generating system of group.	20
III	Normal subgroups, Simple group, Conjugate elements, Normalizer of an element of a group, Class equation of a group, Centre of a group, Conjugate subgroups, Invariant sub groups, Quotient group, Homomorphism and Isomorphism on groups, Kernel of a Homomorphism and related theorems.	13

10/08/2022

15/08/2022

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt.-Haridwar, Uttarakhand

B.A./B.Sc. II (SEMESTER-IV) PAPER-I Ordinary Differential Equations and Ring Theory

Programme: Diploma Class: B.A./B.Sc.	Year: Second	Semester: Fourth
Subject: Mathematics		
Course Code: UGMAT401T	Course Title: Ordinary Differential Equations and Ring Theory	

Course outcomes:

CO1: The objective of this course is to familiarize the students with various methods of solving differential equations of first and second order and to have qualitative applications.

CO2: A student doing this course is able to solve differential equations and is able to model problems in nature using ordinary differential equations. After completing this course, a student will be able to take more courses on wave equation, heat equation, diffusion equation, gas dynamics, nonlinear evolution equation etc.

CO3: Ring theory is one of the building areas of modern algebra. Objective of this course is to introduce students to basic concepts of Ring, Integral domain and other structures with their properties. This course will lead the student to basic course in advanced mathematics and Algebra.

Credits: 6	Core Compulsory/Elective
Max. Marks: 25+75	Min. Passing Marks:

Total No. of Lectures - Tutorials-Practical (in hours per week): L-T-P:6-0-0

Part-A

Ordinary Differential Equations

Unit	Topics	No. of Lectures
I	Introduction of Differential equations, Order and Degree of Differential Equations, Complete primitive (general solution, particular solution and singular solutions), Existence and uniqueness of the solution $dy/dx = f(x,y)$.	12
II	Differential equations of first order and first degree, Separation of variables, Homogeneous linear Equations, Exact Equations, Integrating Factor, Linear Equation, Equation of First order but not of first degree, Various methods of solution, Clairaut's form, Singular solutions, Trajectory, Orthogonal Trajectory, Self-Orthogonal family of Curves.	11
III	Linear differential equations with constant coefficients, Complementary function, Particular integral, Working rule for finding solution of linear differential equations with constant coefficients, Homogeneous linear equations or Cauchy-Euler equations.	11
IV	Simultaneous differential equations, Differential equations of the form $dx/P = dy/Q = dz/R$ where P, Q, R are functions of x, y, z. Exact differential equations, Total differential equations, Series solutions of differential equations, Linear differential equations of second order with variable coefficients, Initial and boundary value problems.	11

10/08/2022

10/08/2022

Chaman Lal Mahavidhyalaya I.Q.A.C. Coordinator Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Subject prerequisites:

1. Open For All. To study this course, a student must have qualified 10+2. Admission to the campus shall be guided by the norms specified by the university.

COURSE INTRODUCTION

History is the study of change over time. It covers all aspect of human society. History deals with all aspects of human past e.g. political, social, economic, scientific, technological, medical, culture, intellectual, religious, military etc. History involves the analysis and interpretation of the human past thereby enabling us to study continuity and changes that are taking place over a time. It is an act of both investigation and imagination that seeks to explain how people changed over time. Historians use all forms of evidence to examine, interpret, revisit and reinterpret the past. These include not just written documents, but also oral communication and objects such as buildings, artifacts, photographs and paintings. Historians are trained in the method of discovering and evaluating these sources and the challenging task of making historical sense out of them. Historical discourse gives an understanding of the past which enables us to appreciate our present and shape our future. Besides, history provides background information for other disciplines of social science and humanities.

Programme Outcomes (POs):

PO 1	**Knowledge:** The students develop a scientific understanding of the past which enables them to understand the history of India as well as the history of the world.
PO 2	**Problem Analysis:** The students develop a logical understanding of the past which enable them to make sense of the current societal problems in their historical context. The students gather intimate knowledge of the genesis and evolution of the social, economic, cultural and political formations of human past.
PO 3	**Historical Research:** Use historical research methods to generate knowledge about the various and diversified issues relating to the past.
PO 4	**Conservation and Preservation:** Conservation and preservation of art, culture and heritage of the Himalayan region. The department has Himalayan Museum since 1987, which has specifically been devoted to display, conserve and preserve the artefacts of the Himalayan region.
PO 5	**Modern methods usage:** Select and apply appropriate methods, techniques, resources and modern IT tools for generation and dissemination of historical knowledge.
PO 6	**History and society:** Apply reasoning informed by the contextual knowledge of human past to assess current state of society, economy, environmental, cultural, and political and other related issues.
PO 7	**Career Prospects:** Enable them in understanding significance of the subject for various competitive examinations.
PO 8	**Individual and team work:** Function effectively as an individual
PO 9	**Communication:** Communicate the outcome of the historical research through writings
PO 10	**Life-long learning:** Recognize the need for and have the capability of critically evaluating and analysing the past for a better understanding of human past.

Chaman Lal Mahavidhyalaya ★ Landhaura (Haridwar) ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

BA First Year

Certificate in Arts

Programme Specific Outcomes (PSOs)
UG I Year / Certificate in Arts

At the end of the program following outcomes are expected from the students:

- Students will have the ability to apply historical methods to evaluate critically the past and how historians and others have interpreted it.
- Students will be able to acquire basic historical research skills, including the effective use of Libraries, Archives and data bases.
- Students will be able to organize and express their thoughts clearly and coherently both orally and in writing.
- Students will be able to demonstrate broad knowledge of historical events and historical periods and their significance.
- Students will be able to recognize how different individuals, groups, organizations, societies, cultures, countries and nations have affected history. History gave the students wisdom and foresight for the future.
- They can develop capabilities to start earning by using their skill in the field of historical and traditional knowledge system, Tourism, Archives and Museums.

Certificate in Arts

Semester	Name of The Paper	Credits	No of Lectures
I	History of India from the Earliest Times up to 300 AD	6	90
II	History of India from 300AD to 1200 AD	6	90

BA Second Year

Diploma in Arts

Programme Specific Outcomes (PSOs)
UG II Year/ (Diploma in Arts)

- Prepares students to become historian, museum curator, archaeologist, etc. and to pursue higher education in the field of history.
- Prepares scholars who will identify and conceptualize significant research problems in the history discipline, can do comparative study of different time periods and are qualified to undertake relevant research and contribute new knowledge to the field.
- They can become independent entrepreneurs or become employed.

Diploma in Arts

Semester	Name of The Paper	Credits	No of Lectures
III	History of India from 1200 AD to 1526 AD	6	90
IV	History of India from 1526 AD to 1756 AD	6	90

Chaman Lal Mahavidhyalaya IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Certificate in Arts		
Programme: *Certificate in Arts*	**Year: I**	**Semester : I Paper-I**
Subject: History		
Course Code: H101MT	**Course Title:** History of India from the Earliest Times up to 300 AD	

Course Outcomes:

The present course will be useful in providing a comprehensive understanding to the evaluation of early Indian society and the student will be able to identify the forces and factors that shaped the course the course of early Indian history. The students will develop a critical awareness of various categories of sources for the study of ancient Indian history. They will learn the analytical skills to explore the development of India's religious systems and cultural accomplishments in historical perspective. They will be able to explore the connections between multiple causative factors and access their relative historical significance. They will understand the process of the rise and decline of imperial states in early India.

Credits: 6	**Core Compulsory**
Max. Marks: 25+75 =100	

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	Meaning, scope, sources and importance of History.	**12**
Unit II	An Introduction of Paleolithic, Mesolithic, Neolithic and Chalcolithic cultures.	**10**
Unit III	Harappan Civilization: Origin, Extent, Main features & Causes of Decline.	**11**
Unit IV	The Rig Vedic and Later Vedic Period: Polity, Society, Economy and Religion, Iron age with reference to PGW & Megaliths cultures.	**8**
Unit V	Territorial States and the rise of Magadha, Conditions for the rise of Mahajanpadas and the Causes of Magadha's success.	**8**
Unit VI	Jainism and Buddhism: Causes of Origin, Doctrines, Spread, Decline and Contributions.	**7**
Unit VII	Emergence and Growth of Mauryan Empire: State, Administration, Economy, Ashoka's Dhamma.	**9**
Unit VIII	The Shunga's & Satvahana's Phase: Aspects of Political History, Material Culture, and Administration.	**7**

Chaman Lal Mahavidhyalaya IQAC Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt.-Haridwar Uttarakhand

Programme: *Certificate in Arts*	Year: I	Semester: II Paper-I
Subject: History		
Course Code: H102MT	**Course Title:** History of India from 300 AD to 1200 AD	

Course Outcomes:

This paper is designed to develop the understanding of the process of transition from ancient period to the early medieval period and figure out the key determinations that made this transition possible. It will develop an understanding of the growing culture and political and economic linkages between North and South Indian. The student will also get familiarized with the development of historical processes in Deccan and far south.

Credits: 6	**Core Compulsory**
Max. Marks:25+75=100	

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	The Rise & Growth of the Guptas: Administration, Society, Economy, Religion, Art, Literature, Science &Technology.	**14**
Unit II	The post Gupta Period: Administration, Agrarian and Revenue Systems, Pallavas Chalukyas and Vardhanas.	**12**
Unit III	South India: Polity, Society, Economy & Culture.	**14**
Unit IV	Towards the Early Medieval: Changes in Society, Polity Economy and Culture with reference to the Pallavas, Chalukayas and Vardhanas.	**10**
Unit V	Evolution of Political structures of Rashtrakutas, Pala & Pratiharas.	**10**
Unit VI	Emergence of Rajput States in Northern India: Polity, Economy & Society.	**11**
Unit VII	The Arabs in Sindh: Polity, Religion & Society.	**9**
Unit VIII	Struggle for power in Northern India & establishment of Sultanate.	**10**

Chaman Lal Mahavidhyalaya ★ Landhaura ★ Haridwar ★ I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

Certificate Course in Fundamentals of Economics

Programme : Certificate Course in Fundamentals of Economics	Year 1	Semester 1 Paper I

Subject : Economics

Course Code : ECOMJ101	Course Title : Basics of Microeconomics

Course Outcomes: The course will help in:

- Study of micro economics enables the students to have an understanding of theoretical aspects of the subject.
- Students are able to understand and define the basic concepts like consumer behavior,production, demand and supply etc.
- Students will learn about the price and output determination of the firm and industry under different market forms. They also learn about the Welfare concept in modern Economics.

Credits : 6 Credits	Core Compulsory
Max. Marks :75	Min. Passing Marks: 25

Total No. of Lectures – Practical (in hours per week) : 4-0-0

Unit	Topic	No. of Lectures
I	Definition, Nature, Scope and Methods of Micro Economics. Equilibrium: Partial and General, Static and Dynamic.	16
II	Theory of Demand: Utility Analysis of Demand. (Cardinal & Ordinal Approach) Indifference Curve Analysis. Consumer's Equilibrium.Giffen Goods. Concept and Calculation of Elasticity of Demand& Consumer's Surplus.	18
III	Theory of Production: Returns to a Variable Factor. Production Possibility Curve. Production Function: Isoquants, Fixed Proportions and Variable Proportions Production Functions, Returns to Scale. Concept and Calculation of Total, average and marginal cost. Concept and Calculation of Revenue Curves - Total, Average and Marginal.	20
IV	Market Structures and Price Determination. Equilibrium of the Firm. Perfect Competition. Monopoly &Monopolistic Competition.	18
V	Theory of Factor Pricing: Marginal Productivity theory of Distribution. Modern Theories of Wage, Rent, Interest & Profit.	18

Certificate Course in Fundamentals of Economics		
Programme : Certificate Course in Fundamentals of Economics	**Year I**	**Semester 2 Paper I**
Subject : Economics		
Course Code : ECOMJ201	**Course Title : Basics of Macroeconomics**	

Course Outcomes:

- Students learn about macroeconomics and different theories regarding the determination of income and employment by different economists.
- They learn about the consumption and investment functions. And also, about the functioning of multiplier process.
- Students learn about money and banking and become able to know about the theories of inflation and Unemployment etc.

Credits : 6 Credits	**Core Compulsory**
Max. Marks :75	**Min. Passing Marks: 25**

Total No. of Lectures – Practical (in hours per week) : 4-0-0

Unit	Topics	No. of Lectures
I	Macro-economics: Meaning, Nature, Scope, Importance and Limitations. Types of Macro Economics – Macro-Staticsand Macro - Dynamics.	16
II	National Income Concept : Gross Domestic Product (GDP), Net Domestic Product (NDP), Gross National Product (GNP), Net National Product (NNP), Personal Income (PI), Disposable Income (DI). Measures of National Income: Product Method, Income Method, Expenditure Method & Mixed Method.	20
III	Classical Approach to Employment: Classical Theory of Employment, Say's Law of Market, Pigou's Wage Cut Theory of Employment. Unemployment – Types and Causes.	18
IV	Keynesian Economics: Theory of Employment, Aggregate Demand and Aggregate Supply. Concept of Effective Demand. Multiplier – Investment Multiplier..	16
V	Consumption, Saving and Investment Function: Average and Marginal Propensity to Consume, Average and Marginal Propensity to Save,Marginal Efficiency of Capital, Autonomous Investment and Induced Investment.	20

Suggested Readings :

1. Ackley, G., Macroeconomics: Theory and Policy, Macmillan, New Y
2. Dornbusch, R. and F. Stanley, Macroeconomics, Mc Graw Hill, New York.
3. Jha, R., Contemporary Macroeconomic Theory and Policy, Wiley Eastern, New Delhi.

COURSE INTRODUCTION

The new curriculum of B.Sc. in Science (Botany) offers essential knowledge and technical skills to study plants in a holistic manner. Students would be trained in all areas of plant biology using a unique combination of core, elective and vocational papers with significant inter-disciplinary components. Students would be exposed to cutting-edge technologies that are currently being used in the study of plant life forms, their evolution and interactions with other organisms within the ecosystem. Students would also become aware of the social and environmental significance of plants and their relevance to the national economy.

B.Sc. Botany Programme covers academic activities within the classroom sessions along with practical concepts at laboratory sessions. Infield, outstation activities and projects would also be organized for real-life experience and learning. Candidates who have curiosity in plants kingdom, ecosystem, love exploring exotic places and wish to work as researchers or professions like Botanist, Conservationist, Ecologist, etc. can choose B.Sc. Botany course.

Programme outcomes (POs):

Transformed curriculum shall develop educated outcome-oriented candidature, fostered with discovery- learning, equipped with practice & skills to deal practical problems and versed with recent pedagogical trends in education including e-learning, flipped class and hybrid learning to develop into responsible citizen for nation-building and transforming the country towards the future with their knowledge gained in the field of plant science.

PO1	CBCS syllabus with a combination of general and specialized education shall introduce the concepts of breadth and depth in learning.
PO2	Shall produce competent plant biologists who can employ and implement their gained knowledge in basic and applied aspects that will profoundly influence the prevailing paradigm of agriculture, industry, healthcare and environment to provide sustainable development.
PO3	Will increase the ability of critical thinking, development of scientific attitude, handling of problems and generating solutions, improve practical skills, enhance communication skill, social interaction, and increase awareness in judicious use of plant resources by recognizing the ethical value system.
PO4	The training provided to the students will make them competent enough for doing jobs in Govt. and private sectors of academia, research and industry along with graduate preparation for national as well as international competitive examinations, especially UGC-CSIR NET, UPSC Civil Services Examination, IFS, NSC, FCI, BSI, FRI etc.

Chaman Lal Mahavidhyalaya
I.Q.A.C.
Coordinator
Landhaura (Haridwar)

Principal
Chaman Lal Mahavidhyalaya
Landhaura, Distt -Haridwar Uttarakhand

DETAILED SYLLABUS OF B.Sc. I YEAR FOR CERTIFICATE COURSE IN BASIC BOTANY

Course	Year	Semester
Certificate Course in Basic Botany	*B.Sc. I*	*I*

Paper 1: Microbes, Algae, Fungi and Bryophytes (Course code: BOT101T) Credit: 4

Course Outcome

After the completion of the course the students will be able to:

1. Develop understanding about the classification and diversity of different microbesincluding viruses, Algae, Fungi & Lichens & their economic importance.
2. Develop conceptual skill about identifying microbes, pathogens, biofertilizers & lichens.
3. Gain knowledge about developing commercial enterprise of microbial products.
4. Learn host –pathogen relationship and disease management.
5. Gain Knowledge about uses of microbes in various fields.
6. Understand the structure and reproduction of certain selected bacteria algae, fungi and lichens
7. Develop critical understanding on morphology, anatomy and reproduction of Bryophytes.

Unit	Topic	No. of lectures/ hrs (60)
1	Microbes : Viruses-discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); economic importance; bacteria–discovery, general characteristics and cell structure; reproduction–vegetative, asexual and recombination (conjugation, transformation and transduction); economic importance.	15
2	Algae: General characteristics; Range of thallus organization and reproduction; classification of algae; morphology and life-cycles of: *Nostoc*, *Chlamydomonas*, *Oedogonium*, *Vaucheria*, *Fucus*, *Sargassum*; economic importance of algae.	15
3	Fungi : Introduction-general characteristics, ecology and significance, range of somatic thallus organization, cell wall composition, nutrition, reproduction and classification (G.C. Ainsworth); life cycle of *Stemonitis* (Myxomycota)	15

10/08/22

Chaman Lal Mahavidhyalaya Landhaura (Haridwar) I.Q.A.C. Coordinator

Principal
Chaman Lal Mahavidhyalaya
Landhaura Distt -Haridwar Uttarakhand