# FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

## DEPARTMENT OF BOTANY

## COURSE CURRICULUM

| **PART- A: Introduction** | | | | |
|---|---|---|---|---|
| **Program: Bachelor in Life Sciences** *(Diploma / Degree/Honors)* | | | **Semester –** III/IV/V/VI/VII/VIII | Session: **2024-2025** |
| 1 | **Course Code** | **BOGE -01 T** | | |
| 2 | **Course Title** | **Elementary Botany** | | |
| 3 | **Course Type** | **Generic elective (GE)** | | |
| 4 | **Pre-requisite** (if, any) | ***As per program*** | | |
| 5 | **Course Learning. Outcomes (CLO)** | At the end of this course, the students will be able to<br>➢ Understand the Basics of Botany and its branches.<br>➢ Get acquainted with complex interrelationship between organisms and environment.<br>➢ Develop a comprehensive understanding of the identification, cultivation, and processing of medicinal plants, and their chemical constituents.<br>➢ Utilize plants resources for livelihood. | | |
| 6 | **Credit Value** | **3 Credits** | ***Credit = 15 Hours - learning & Observation*** | |
| 7 | **Total Marks** | **Max. Marks: 100** | **Min Passing Marks: 40** | |

**PART -B: Content of the Course**

**Total No. of Teaching–learning Periods (01 Hr. per period) - 45 Periods (45 Hours)**

| Unit | Topics (Course contents) | No. of Period |
|---|---|---|
| I | **Basics of Plant Science**: Differences and resemblances between; living and nonliving plants and animals, plant and animal cell. Concept of prokaryotes and eukaryotes.Importan features of thallophyta, Bryophyta, Pteridophyta, Gymnosperm and Angiosperm.Structure an function of a typical flowering plant. | 12 |
| II | **Branches of botany:** General idea, features, and significance; Anatomy, Cytology, Economic Botany, Ethnobotany, Forestry, Genetics, Histology, Microbiology, Paleobotany, Phytochemistry, Phytopathology , Plant biotechnology, Plant breeding, Plant ecology, Plant morphology, Plant physiology, Plant Taxonomy, etc, | 11 |
| III | **Plants for human welfare:**Plant Resources for Rural livelihood – Mahua, Tendu patta, Bamboo and Firewood.Ethnobotany in India: Methods to study Ethnobotany, Applications of Ethnobotany, ethnomedicinal plants and ethnoecology. Application of plant products for certain diseases- Cough and cold, Jaundice, Infertility, Diabetes, Blood pressure and Skin diseases. | 11 |
| IV | **Ancient Indian Botany:**Indigenous Medicinal Sciences;Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments, Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept. Charaksamhita. Ancient and modern Botanists and their contributions.-Charak, Jagdish Chandra Bose, B.P.Pal, Desikachary,K.C. Mehta M.S. Swaminathan etc. | 11 |
| *Keywords* | ***Prokaryotes, Ethnobotany, Taxonomy, Ayurveda*** | |

***Signature of Convener & Members (CBoS) :***

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## PART–C: Learning Resources

**Text Books, Reference Books and Others**

***Text Books Recommended –***

1. College Botany Ganguli Kar and dutta , HIMALAYA Publishers
2. "Handbook of Medicinal Plants" by L.D. Kapoor
3. "Indian Medicinal Plants: An Illustrated Dictionary" by C.P. Khare
4. "Medicinal Plants in India: Conservation and Sustainable Utilization in the Emerging Global Scenario" edited by V.K. Gupta
5. "A Compendium of Medicinal Plants in India: An Introduction to Ayurveda" by S.L. Kochhar
6. A handbook of forest utilization by T. Mehta
7. Plants and human welfare by O.P.Sharma

***Reference Books Recommended –***

1. Charak Samhita
2. Medicinal Plants of India" by C.P. Khare

**Online Resources–**

- **e-books and e-learning portals**
- **www.swayam.ac.in**
- **www.ignou.ac.in**
- **www.egyankosh.ac.in**
- **www.iitm.ac.in**
- **www.eskillindia.org**
- **www.eshiksha.mp.gov.in**
- **www.vlab.co.in**
- **www.internshala.com**
- **www.ndl.iitkgp.ac.in**

**Online Resources–**

**e-Resources / e-books and e-learning portals**

- https://extension.oregonstate.edu/collection/botany-basics
- https://www.pbs.org/video/botany-basics-iuu2bl/
- https://efaidnbmnnnibpcajpcglclefindmkaj/https://www2.ca.uky.edu/agcomm/pubs/ho/ho96/ho96.pdf
- https://www.botanytoday.com/branches-of-botany/
- https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.unanijournal.com/articles/94/3-1-11-206.pdf
- https://efaidnbmnnnibpcajpcglclefindmkaj/https://wgbis.ces.iisc.ac.in/biodiversity/sahyadri/documents/botany_history.pdf
- https://vedpuran.files.wordpress.com/2016/07/charaksamhitaatridevajigupt-vol-1.pdf
- https://egyankosh.ac.in/handle/123456789/89429

## PART -D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

**Maximum Marks: 100 Marks**
**Continuous Internal Assessment (CIA): 30 Marks**
**End Semester Exam (ESE): 70 Marks**

| | | |
|---|---|---|
| **Continuous Internal Assessment (CIA): 30** **(By Course Teacher)** | Internal Test / Quiz-(2): **20** **+20**<br>Assignment / Seminar - **10**<br>Total Marks - **30** | Better marks out of the two Test / Quiz **+** obtained marks in Assignment shall be considered against **30** Marks |
| **End Semester Exam (ESE): 70** | **Two section – A & B**<br>Section A: **Q1**. Objective – **10 x1= 10** Mark; **Q2**. Short answer type- **5x4 =20 Marks**<br>Section B: Descriptive answer type qts.,**1out of 2** from each unit-**4x10=40 Marks** | |

***Name and Signature of Convener & Members of CBoS:***

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FOUR YEAR UNDERGRADUATE PROGRAM (2024–28)

DEPARTMENT OF BOTANY

# COURSE CURRICULUM

| **PART- A: Introduction** | | | | |
|---|---|---|---|---|
| **Program: Bachelor in Life Sciences** *(Diploma / Degree/ Honors)* | | **Semester –** III, IV, V, VI,VII,VIII | Session: **2024-2025** | |
| 1 | **Course Code** | **BOGE -01 P** | | |
| 2 | **Course Title** | **Lab. Course -01 (Elementary Botany)** | | |
| 3 | **Course Type** | **Laboratory course** | | |
| 4 | **Pre-requisite** (if, any) | ***As per program*** | | |
| 5 | **Course Learning. Outcomes (CLO)** | At the end of this course, the students will be able to<br>➢ Understand structure of plant cell, prokaryotic cell and eukaryotic cell.<br>➢ Identify pteridophytes of college campus.<br>➢ Learn about the different types of plant tissues.<br>➢ Learn about Ayurvedic system of medicine. | | |
| 6 | **Credit Value** | **1 Credits** | ***Credit =30 Hours Laboratory or Field learning/Training*** | |
| 7 | **Total Marks** | **Max. Marks: 50** | **Min Passing Marks: 20** | |

| **PART -B: Content of the Course** | | |
|---|---|---|
| **Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)** | | |
| **Module** | **Topics (Course contents)** | **No. of Period** |
| **Lab./Field Training/ Experiment Contents of Course** | **1.** Microscopic study of plant cell.<br>**2.** Microscopic study of prokaryotic (Bacteria) and eukaryotic cell (algae and fungi).<br>**3.** Study of thallus structure of *Riccia* and *Marchantia*.<br>**4.** Identification of different plants growing in college campus.<br>**5.** Study of a typical flowering plant and it's parts.<br>**6.** Study of internal structure of root and stem.<br>**7.** Study of parenchyma, collenchyma and sclerenchyma.<br>**8.** Study of medicinal plants of college campus.<br>**9.** Study of plants used to cure cough and cold, jaundice and skin diseases.<br>**10.** Visit to any local ayurvedic hospital / practitioner to understand Ayurveda. | **30** |
| *Keywords* | ***Prokaryotic, Parenchyma, Jaundice, Ayurveda.*** | |

***Signature of Convener & Members (CBoS) :***

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## PART–C: Learning Resources

**Text Books, Reference Books and Others**

***Text Books Recommended –***

***Text Books Recommended –***

1. College Botany Ganguli Kar and dutta , HIMALAYA Publishers
2. "Handbook of Medicinal Plants" by L.D. Kapoor
3. "Indian Medicinal Plants: An Illustrated Dictionary" by C.P. Khare
4. "Medicinal Plants in India: Conservation and Sustainable Utilization in the Emerging Global Scenario" edited by V.K. Gupta
5. "A Compendium of Medicinal Plants in India: An Introduction to Ayurveda" by S.L. Kochhar
6. A handbook of forest utilization by T. Mehta
7. Plants and human welfare by O.P.Sharma

***Reference Books Recommended –***

1. Charak Samhita
2. Medicinal Plants of India" by C.P. Khare

**Online Resources–**

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- **www.ignou.ac.in**
- **www.egyankosh.ac.in**
- **www.iitm.ac.in**
- **www.eskillindia.org**
- **www.eshiksha.mp.gov.in**
- **www.vlab.co.in**
- **www.internshala.com**
- **www.ndl.iitkgp.ac.in**

**Online Resources–**

- **e-Resources / e-books and e-learning portals**
- **https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5871155/**
- **https://cms.botany.org/home/careers-jobs/careers-in-botany/areas-of-specialization-in-botany.html**

## PART -D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

**Maximum Marks: 50 Marks**

**Continuous Internal Assessment (CIA): 15 Marks**

**End Semester Exam (ESE): 35 Marks**

| | | |
|---|---|---|
| **Continuous Internal Assessment (CIA): 15** (By Course Teacher) | Internal Test / Quiz-(2): **10 & 10**<br>Assignment/Seminar +Attendance - **05**<br>Total Marks - **15** | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against **15** Marks |
| **End Semester Exam (ESE): 35** | **Laboratory / Field Skill Performance: On spot Assessment**<br>**A. Performed the Task based on lab. work - 20 Marks**<br>**B. Spotting based on tools & technology (written) – 10 Marks**<br>**C. Viva-voce (based on principle/technology) - 05 Marks** | **Managed by Course teacher as per lab. status** |

***Name and Signature of Convener & Members of CBoS:***

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# FOUR YEAR UNDER GRADUATE PROGRAM (2024-28)

## DEPARTMENT OF MATHEMATICS

## COURSE CURRICULUM

| **Part A: Introduction** | | | | |
|---|---|---|---|---|
| **Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)** | | **Semester - I** | **Session:2024-2025** | |
| 1 | Course Code | **MAGE-01** | | |
| 2 | Course Title | **Elementary Calculus** | | |
| 3 | Course Type | **Generic Elective (GE)** | | |
| 4 | Pre-requisite(if any) | Knowledge of basic Differential and Integral calculus | | |
| 5 | Course Learning Outcome (CLO) | **This Course will enable the students to:**<br>➢ Know about ancient Indian Mathematicians and their contribution<br>➢ Calculate the limit and examine the continuity and understand the geometrical interpretation of differentiability. Apply various tests to determine convergence.<br>➢ Understand the consequences of various mean value theorems.<br>➢ Understand concepts of Curvature and Asymptotes .<br>➢ Draw curves in Cartesian and polar coordinate systems<br>➢ Understand the elementary integration of transcendental function and understand applications of reduction formulae. | | |
| 6 | Credit Value | **4 C** | 1Credit = 15 hours- Learning and observation | |
| 7 | Total Marks | Maximum Marks : 100 | | Minimum Passing Marks:40 |

| **Part B: Content of the Course** | | |
|---|---|---|
| **Total no of teaching – learning period =60 Periods (60 Hours)** | | |
| **UNIT** | **Topics** | **No of Periods** |
| **I** | **Contributions and Biography of Indian Mathematicians:** Bodhayan, Apasthamb, Katyayan, Mahaveeracharya, Brahmagupta and Bhaskarachaya in special context of Leelavati.<br>**Sequences, Continuity and Differentiability** :<br>Notion of convergence of sequences and series of real numbers, Definition of limit and continuity of a real valued function; Differentiability and its geometrical interpretation. Elementary Differentiation. | **15** |
| **II** | **Expansion of Functions:**<br>Rolle's Theorem, Lagrange's mean value theorem, Cauchy's mean value theorem and their geometrical interpretations, Successive differentiation and Leibnitz theorem, Maclaurin's and Taylor's theorems for expansion of a function. | **15** |
| **III** | **Curvature, Asymptotes , Curve Tracing:**<br>Curvature; Asymptotes of general algebraic curves, Parallel asymptotes, Asymptotes parallel to axes; Symmetry, Concavity and convexity, Points of inflection, Tangents at origin, Multiple points, Position and nature of double points; Tracing of Cartesian, polar and parametric curves. | **15** |
| **IV** | **Integration:**<br>Elementary integration, Integration of Transcendental function, Reduction formulae, Definite integral. | **15** |

Dr. S Dashpute (Dr. P. K. Sahu)

## Part C - Learning Resource

**Text Books, Reference Books, Other Resources**

**Text Books Recommended-**

1. Howard Anton, I. Bivens& Stephan Davis (2016). Calculus (10th edition). Wiley India.
2. Gabriel Klambauer (1986). Aspects of Calculus. Springer-Verlag.
3. Wieslaw Krawcewicz & BindhyachalRai (2003). Calculus with Maple Labs. Narosa.
4. Gorakh Prasad (2016). Differential Calculus (19th edition). Pothishala Pvt. Ltd.

**Reference Books Recommended-**

5. George B. Thomas Jr., Joel Hass, Christopher Heil& Maurice D. Weir (2018). Thomas' Calculus (14th edition). Pearson Education.
6. Jerrold Marsden, Anthony J. Tromba& Alan Weinstein (2009). Basic Multivariable Calculus, Springer India Pvt. Limited.
7. James Stewart (2012). Multivariable Calculus (7th edition). Brooks/Cole. Cengage.
8. Monty J. Strauss, Gerald L. Bradley & Karl J. Smith (2011). Calculus (3rd edition). Pearson Education. Dorling Kindersley (India) Pvt. Ltd.

**E-resources:** https://onlinecourses.nptel.ac.in
https://epgp.inflibnet.aci.in
https://swayam.gov.in
https://www.mooc.org

## Part D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

**Maximum Marks:** **100 Marks**

**Continuous Internal Assessment (CIA):** **30 Marks**

**End Semester Examination (ESE):** **70 Marks**

| | | |
|---|---|---|
| **Continuous Internal Assessment (CIA)** (Conducted by course teacher) | Test /Quiz – 20+20 Marks<br>Assignment/Seminar- 10 Marks | Better marks out of two test/quiz + obtained marks in Assignment shall be considered against 30 marks |
| **End Semester Examination (ESE)** | **Two Section**-A&B<br>Section-A: Q1.Objective- 10x1=10 marks Q2. Short answer type question-5x4=20marks<br>Section-B: Descriptive answer type question, 1 out of 2 from each unit- 10x4= 40 Marks | |

**Name and signature of convener & members of CBOS-**

Dr. S. Dashpute

Dr. Omkar Nath Shivastava

(Dr. P. K. Sahu)

**FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)**
**DEPARTMENT OF ZOOLOGY**
**Course Curriculum**

| **PART- A: Introduction** | | | | |
|---|---|---|---|---|
| **Program: Bachelor in Life Science** *(Certificate / Diploma / Degree/ Honors)* | | **Semester - I** | | Session: **2024-2025** |
| 1 | **Course Code** | **ZOGE - 01T** | | |
| 2 | **Course Title** | **Life on Earth and Unique Attributes of Animal Kingdom** | | |
| 3 | **Course Type** | **General Elective** | | |
| 4 | **Pre-requisite** (if, any) | *As per program* | | |
| 5 | **Course Learning Outcomes (CLO)** | **After successfully completing this course, the students will be able to-**<br>➢ Develop an understanding of concepts, mechanisms, evolutionary significance and relevance of Origin of life.<br>➢ Understand General Idea about Invertebrate and Vertebrate animals with special reference and their specific qualities.<br>➢ Understand and appreciate diversity of life forms.<br>➢ Apply the knowledge about animals Sciences in daily life. | | |
| 6 | **Credit Value** | **3 Credits** | ***Credit = 15 Hours - learning & Observation*** | |
| 7 | **Total Marks** | **Max. Marks: 100** | | **Min Passing Marks: 40** |

**PART -B: Content of the Course**

**Total No. of Teaching–learning Periods (01 Hr. per period) - 45 Periods (45 Hours)**

| Unit | Topics (Course contents) | No. of Period |
|---|---|---|
| I | **Origin of life: Theories of Origin of life:** **Ancient Theory** Theory of Special Creation (Mythological approach),Theory of Panspermia or Cosmozoic Theory, Theory of Directed Panspermia, Theory of Catastrophism, Theory of Spontaneous Generation (Abiogenesis or Autogenesis), Theory of Biogenesis: Redi's Experiment and Pasture's Experiment. **Modern Theory: Origin of Universe:** Big Bang Hypothesis in Brief, **Origin of Solar System and The Earth:** Nebular hypothesis, **Atomosphere and Eneargy Sources on Primitive Earth, Biochemical Origin of Life:** Oparin and Haldane Theory, **Chemogeny:** Formation of simple and complex organic compounds (Stanely Miller and Ure's Experiment), Formation of Coacervates, Nucleic Acids. **Biogeny:** Origin of primitive prokaryotic cell. **Evolution of modes of Nutrition:** Chemohetertrophs, Anaerobic and Aerobic Photoautotrophs. Evolution of Eukaryotes. | 12 |
| II | **Systematics & Unique attributes of Invertebrate and Vertebrate animals with special reference to Coelentrata, Mollusca and Pisces:** Definition and difference between Invertebrate and Vertebrate. **Nomenclature:** Binomial and Trinomial Nomenclature and International code of Nomenclature **Corals:** Meaning of Coral, Structure of Coral polyp, Coral Skeleton, Types of corals: Hydrozoan Coral, Example- Millipora, Octocorallian Coral, Example- Alcyonium, Hexacorallian Corals, Example- Gorgonia. **Torsion in Mollusca:** Definition, Mechanism of Torsion, Effects of Torsion, Significance of Torsion. **Pisces: Migration in fishes**: Catadromous: Eel fish and Anadromous: Salmon fish and **Parental care in fishes:** By nest formation, Coiling round eggs, Attachment to body, Integumentary cups, Shelter in mouth, Brood pouch, Mermaids purses, Viviparity. | 11 |
| III | **Unique attributes of Vertebrate animals with special reference to Amphibia & Reptilia:** **Parental care in Amphibia:** by Nest, by Nursery or Shelter and by Parents **Neoteny in Amphibia**: Definition, Partial and Total Neotony, Factors Affecting Neotony, Examples- Axolotal larva, Necturus and Siren. **Reptilia: Venomous & Non-venomous Snakes:** Identification, Poison apparatus: Poison Glands, Poison ducts and Fangs, Biting Mechanism. | 11 |
| IV | **Unique attributes of Vertebrate animals with special reference to Aves and Mammals:** **Birds:** Flight Adaptation, Migration and Perching Mechanism, Flightless Birds (Morphology and Special Characters of Emu, Ostrich and Penguins), Discuss-Birds are glorified reptiles: Archaeopteryx. **Monotremes or Egg laying mammals:** Morphology and Special Characters of Echidna and Duck bill platypus. **Aquatic Mammals:** Morphology and Special Characters of Whale and Dolphin. **Mammals: Flying Mammals:** Morphology and Special Characters of Bat. | 11 |
| *Keywords* | *Origin of life, Invertebrate, Vertebrate, Corals, Torsion, parental care, Neotony, Fangs, Aves, Mammals* | |

***Signature of Convener & Members (CBoS) :***

## PART–C: Learning Resources

**Text Books Recommended**

- E. J. W. Barrington , Invertebrate structure and function, English Language Book Society UK
- Robert Barnes, Invertebrate Zoology, Robert Barnes IVth edition Holt Saunders International Edition Japan
- Park Haswell, Marshall and Williams, A textbook on Zoology Invertebrate, AITBS Publishing and Distributers, Delhi
- Park Haswell, Marshall and Williams, A textbook on Zoology Vertebrate, AITBS Publishing and Distributers, Delhi

**Reference Books Recommended**

- Prof R. L. Kotpal, Protozoa to Echinodermata, Rastogi Publication Meerut
- E.L. Jordan, Dr. P. S. Verma,Invertebrate Zoology , S. Chand Publications, New Delhi
- N. Arumugam, N. C. Nair S. - Invertebrate Zoology, Saras Publication.
- N. Arumugam, N. C. Nair S. - vertebrate Zoology, Saras Publication.
- Barrington E. J. W., Invertebrate Structure and Function, Nelson London
- Barnes, R. D., Invertebrate Zoology –Saunders Philadelphia
- R. L. Kotpal, Invertebrate, Rastogi Publications
- R. L. Kotpal, Vertebrate, Rastogi Publications
- H. S. Bhampah, KavitaJuneja, Recent trends in vertebrates vol 1 – 9, Anmol Publication
- S. N. Prasad, Life of invertebrates, Vikash Publication House Pvt Ltd New Delhi
- G. S. Sandhu, HarshwardhanBhagskar – Advanced invertebrate zoology –Campus books international

**Online Resources–**

- **https://www.coursera.org/lecture/emergence-of-life/4-5-invertebrates-successes-of-life-without-a-backbone-WQHqS**
- **https://www.shiksha.com/online-courses/introduction-to-biology-biodiversity-course-courl5385**
- **https://www.youtube.com/watch?v=k121Qv6loBA**
- **https://www.youtube.com/watch?v=uK-Xx_OCYcI**
- **https://www.youtube.com/watch?v=vybbBil5Elk**
- **https://www.youtube.com/watch?v=WxMSckEeio4**

## PART -D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

**Maximum Marks: 100 Marks**

**Continuous Internal Assessment (CIA): 30 Marks**

**End Semester Exam (ESE): 70 Marks**

| | | |
|---|---|---|
| **Continuous Internal Assessment (CIA): (By Course Teacher)** | Internal Test / Quiz-(2): **20** +**20**<br>Assignment / Seminar - **10**<br>Total Marks - **30** | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against **30** Marks |
| **End Semester Exam (ESE):** | **Two section – A & B**<br>Section A: **Q1**. Objective – **10 x1= 10** Mark; **Q2**. Short answer type- **5x4 =20 Marks**<br>Section B: Descriptive answer type qts.,**1out of 2** from each unit-**4x10=40 Marks** | |

***Signature of Convener & Members (CBoS :***

# FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
## DPARTMENT OF ZOOLOGY
## COURSE CURRICULUM

| **PART- A: Introduction** | | | | |
|---|---|---|---|---|
| **Program: Bachelor in Life Science** *(Certificate / Diploma / Degree / Honors)* | | | **Semester - I** | Session: **2024-2025** |
| 1 | **Course Code** | **ZOGE - 01P** | | |
| 2 | **Course Title** | **Life on Earth and Unique Attributes of Animal Kingdom** | | |
| 3 | **Course Type** | **General Elective** | | |
| 4 | **Pre-requisite** (if, any) | ***As per Program*** | | |
| 5 | **Course Learning Outcomes (CLO)** | **After successfully completing this course, the students will be able to-**<br>➢ *To demonstrate comprehensive understanding of the current theories and hypotheses regarding the origin of life on Earth,*<br>➢ *Understand diversity of life forms*<br>➢ *Identify some distinctive invertebrate and vertebrate animals*<br>➢ *Apply this Understanding to broader context of life* | | |
| 6 | **Credit Value** | **1 Credits** | ***Credit =30 Hours Laboratory or Field learning/Training*** | |
| 7 | **Total Marks** | **Max. Marks: 50** | | **Min Passing Marks: 20** |

| **PART -B: Content of the Course** | | |
|---|---|---|
| **Total No. of learning-Training / performance Periods: 30 Periods (30 Hours)** | | |
| **Module** | **Topics (Course Contents)** | **No. of Period** |
| **Lab./Field Training/ Experiment Contents of Course** | ➢ Study of origin of life through chart and models<br>➢ Study of different Invertebrates and Vertebrates animals through models and museum specimens in the laboratory with details of biogeography and diagnostic features: Millipora, Alcyonium, Gorgonia, Hippocampus, Ichthyophis (Female), Alytes (Male), Axolotal larva, Necturus, Siren, Cobra, Viper (pit & Pitless), Sea Snake, Rattle Snake, Archaeopteryx, Emu, Ostrich and Penguins, Echidna and Duck bill platypus, Whale, Dolphin, Bat.<br>➢ Preparation and Demonstration of Key for Identification of Venomous and Non-venomous snakes.<br>➢ Study of Coral Reefs through Models, Photographs<br>➢ Study of Fossils through chart/ Models<br>➢ An "**Animal album or Practical Record**" containing sketches, photographs, cut outs, with appropriate write up about the above mentioned taxa.<br>➢ Study of some videos to develop understanding and acquired knowledge on the animals salient features as mentioned above.<br>➢ Group discussion/Viva or Seminar presentation on related topics mentioned in Theory paper. | **30** |
| ***Keywords*** | *Museum specimens, Invertebrates, Vertebrates, Venomous and Non-venomous, Seminar* | |
| ***Name and Signature of Convener & Members of CBoS:*** | | |

## PART–C: Learning Resources

**Text Books, Reference Books and Others**

***Text Books Recommended –***

- S.S. Lal, Practical Zoology, Invertebrate. 12th Edition Rastogi Publications, Meerut,
  - New Delhi.
- A manual of practical Zoology. Dr. P.S Verma, S. Chand Publication, New Delhi

**Reference *Books Recommended –***

- Park Haswell, Marshall and Williams, A textbook on Zoology Invertebrate, AITBS Publishing and Distributers, Delhi
- Park Haswell, Marshall and Williams, A textbook on Zoology Vertebrate, AITBS Publishing and Distributers, Delhi

**Online Resources–**

- **http://ndl.iitkgp.ac.in/he_document/swayamprabha/swayam_prabha/gc5ua6m873i?e=3|*|||**
- **https://www.youtube.com/watch?v=JUdp3U6A1EA**

## PART -D: Assessment and Evaluation

**Suggested Continuous Evaluation Methods:**

| | |
|---|---|
| **Maximum Marks:** | **50 Marks** |
| **Continuous Internal Assessment (CIA):** | **15 Marks** |
| **End Semester Exam (ESE):** | **35 Marks** |

| | | |
|---|---|---|
| **Continuous Internal Assessment (CIA):** **(By Course Teacher)** | Internal Test / Quiz-(2): **10 & 10**<br>Assignment/Seminar +Attendance - **05**<br>Total Marks - **15** | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against **15** Marks |
| **End Semester Exam (ESE):** | **Laboratory / Field Skill Performance: On spot Assessment**<br>**A. Performed the Task based on lab. work - 20 Marks**<br>**B. Spotting based on tools & technology (written) – 10 Marks**<br>**C. Viva-voce (based on principle/technology) - 05 Marks** | **Managed by Course teacher as per lab. status** |

***Name and Signature of Convener & Members of CBoS:***

# चार वर्षीय स्नातक पाठ्यक्रम(2024–28)
# वाणिज्य संकाय
# कोर्स कॅरिकुलम

| खंड–अ:परिचय | | | | |
|---|---|---|---|---|
| पाठ्यक्रमः बैचलर इन कॉमर्स (सर्टिफिकेट / डिप्लोमा / डिग्री / ऑनर्स ) | | | सेमेस्टर–प्रथम | सत्र 2024–25 |
| 1 | कोर्स कोड | सीओजीई–02 | | |
| 2 | कोर्स शीर्षक | व्यावसायिक सन्नियम | | |
| 3 | कोर्स प्रकार | जेनेरिक इलेक्टिव कोर्स (सीओजीई) | | |
| 4 | पूर्व अपेक्षित (यदि हो) | आवश्यकतानुरुप | | |
| 5 | कोर्स लर्निंग आउटकम(CLO) | • व्यापार कानून की बुनियादी अवधारणाओं, नियमों और प्रावधानों का प्रदर्शन करें।<br>• विभिन्न प्रकार के अनुबंधों को वर्गीकृत करें और संबंधित केस अध्ययनों का वर्णन करें।<br>• माल की बिक्री के अनुबंध को नियंत्रित करने वाले विनियमन की व्याख्या करें।<br>• साझेदारी को नियंत्रित करने वाले कानूनों और लेनदेन के कानूनी परिणामों और साझेदारी के संबंध में अन्य कार्यों पर चर्चा करें, और सीमित देयता साझेदारी को नियंत्रित करने वाले संविदात्मक दायित्वों और प्रावधानों की जांच करें।<br>• उपभोक्ताओं के हितों की रक्षा के लिए परक्राम्य लिखत अधिनियम के महत्वपूर्ण प्रावधानों और उपभोक्ता संरक्षण अधिनियम के प्रावधानों की व्याख्या करें। | | |
| 6 | क्रेडिट महत्व | 4 क्रेडिट | 1क्रेडिट=15घंटे का अध्ययन / प्रशिक्षण / प्रवेक्षण | |
| 7 | कुल अंक | अधिकतम पूर्णांक–100 अंक | | उत्तीर्णांक–40 |

| खण्ड–बः कोर्स की विषयवस्तु | | |
|---|---|---|
| कुल अध्यापन कालखंड (01 घंटा प्रति कालखंड)–60 कालखंड (60घंटे) | | |
| इकाई | प्रसंग (विषय वस्तु) | कालखंड की संख्या |
| 1 | **अनुबन्ध अधिनियम(1872)** : अनुबन्ध के प्रकार एवं वर्गीकरण, प्रस्ताव और स्वीकृति, पक्षकारों की अनुबन्ध करने की क्षमता, स्वतन्त्र सहमति, प्रतिफल, उद्देश्य की वैधता, व्यर्थ घोषित ठहराव,अनुबंधों का निष्पादन,अनुबंधों का खंडन,अनुबंध खंडन के लिए उपचार. | 15 |
| 2 | **विशिष्ट अनुबन्ध** : हानि रक्षा (क्षतिपूर्ति) तथाप्रत्याभूति, निक्षेप तथा गिरवी, एजेन्सी (अभिकरण)के अनुबन्ध–अर्थ, एजेन्सी निर्माण के प्रकार, एजेन्ट के प्रकार, एक एजेन्ट का व्यक्तिगत दायित्व एवं एजेन्सी का समापन। | 15 |
| 3 | **वस्तुविक्रय अधिनियम (1930)** :परिभाषा, विक्रय एवं विक्रय के लिये ठहराव, वस्तुओं के प्रकार, शर्त और वारंटी, गैर–मालिकों द्वारा बिक्री, अदत्त विक्रेता, CIF,FOB और Ex-Ship अनुबन्ध। **उपभोक्ता संरक्षण अधिनियम–2019** | 15 |
| 4 | **विनिमय साध्य विलेख अधिनियम (1881)**:विनिमय साध्य विलेख की परिभाषाएं, विशेषताएं,प्रतिज्ञा पत्र, विनिमय विपत्र, धनादेश (चेक), धारक एवं यथाविधिधारी, चेक का रेखांकन, रेखांकन के प्रकार, पराक्रमण, विनिमय साध्य विलेख का अनादरण व मुक्ति, **सीमित दायित्व साझेदारी अधिनियम–2008** | 15 |
| प्रमुख शब्द | **अनुबंध का कानून, विशेष अनुबंध, माल की बिक्री अधिनियम, उपभोक्ता संरक्षण अधिनियम, परक्राम्य लिखत अधिनियम, सीमित देयता भागीदारी अधिनियम।** | |

हस्ताक्षर–सदस्य एवं संयोजक (केन्द्रीय अध्ययन मंडल):–

| खंड–सः अध्ययन स्त्रोत्/साधन | | |
|---|---|---|
| पाठ्यपुस्तक,संदर्भ ग्रंथ एवं अन्यः | | |
| अनुशंतित ग्रंथः–<br>**1.शुक्ल एवं सहाय, साहित्य भवन प्रकाशन, आगरा (हिन्दी माध्यम)**<br>**2.प्रो.आर.सी.अग्रवाल,एसबीपीडी प्रकाशन,आगरा (हिन्दी मीडियम)**<br>**3.डॉ.ओ.पी.गुप्ता,एसबीपीडी प्रकाशन,आगरा (अंग्रेजी माध्यम)**<br>**4.डॉ. जी.के. वार्ष्णेय: बिजनेस लॉ; साहित्य भवन प्रकाशन आगरा (अंग्रेजी माध्यम)**<br>**5.डॉ.बी.के.सिंह और डॉ.ए.तिवारी, बिजनेस रेगुलेटरी फ्रेमवर्क, एसबीपीडी प्रकाशन (हिंदी माध्यम)**<br>**6.आर.एल.नौलखा, बिजनेस लॉ, रमेश बुक डिपो, जयपुर (हिन्दी मीडियम)**<br>**7.डॉ. अरुण कुमार गंगेले, बिजनेस रेग्युलेटरी फ्रेमवर्क, रामप्रसाद एंड संस, (हिंदी मीडियम)**<br>**नोट: शिक्षार्थियों को पाठ्य पुस्तकों के नवीनतम संस्करण का उपयोग करने की सलाह दी जाती है।** | | |
| संदर्भ ग्रंथः<br>**1.कुच्छल एम.सी. बिजनेस लॉः विकास पब्लिशिंग हाउस, दिल्ली। (हिन्दी एवं अंग्रेजी माध्यम)**<br>**2.कपूर एन.डी.: बिजनेस लॉ; सुल्तानचंद एंड संस, नई दिल्ली। (अंग्रेजी माध्यम)**<br>**3.चंदा पी.आर.: बिजनेस लॉ; गलगोटिया नई दिल्ली। (अंग्रेजी माध्यम)** | | |
| ऑनलाईन स्त्रोतः– ई–स्त्रोत/ई–पुस्तक/ई–पोर्टलः<br>https://onlinecourses.swayam2.ac.in/nou24_cm11/preview<br>https://www.toppr.com/guides/business-law/<br>https://www.youtube.com/watch?v=BZshaldOlUo<br>https://www.youtube.com/watch?v=HrF9D2V8Ixk<br>https://www.youtube.com/watch?v=ol2BXgF-P48 | | |
| **खंड–दः आंकलन और मूल्याकंन** | | |
| अनुशंसित सतत् मूल्याकंन प्रविधिः | | |
| पूंर्णाक –100 अंक | सतत् आंतरिक मूल्याकंन **(CIA)** : 30 अंक<br>अंत सेमेस्टर परीक्षा **(ESE)** : 70 अंक | |
| सतत् आंतरिक मूल्याकंन **(CIA)**: (कोर्स शिक्षक द्वारा) | आंतरिक जॉच परीक्षा/प्रश्नोत्तरी परीक्षा(दो): 20+20<br>कार्यभार/सेमीनार+उपस्थितिः– 10<br>कुल अंक– 30 | दोनों आंतरिक परीक्षा उच्चतर प्राप्तांक+कार्यभार में प्राप्तांक– 30 अंक के परिप्रेक्ष्य में अधिग्रहित किया जावेगा. |
| अंत सेमेस्टर परीक्षा **(ESE)** | दो खंड– अ तथा ब<br>खंड–अः प्र.01–वस्तुनिष्ठ प्रश्न–**10x1=10 अंक**, एवं प्र.02– लघुउत्तरीय प्रश्न– **5x4=20 अंक**<br>खंड–बः वर्णात्मक प्रकार के प्रश्न–2 प्रति इकाई में से 1–1 प्रश्न हल करना–**4x10=40 अंक** | |

हस्ताक्षर–सदस्य एवं संयोजक (केन्द्रीय अध्ययन मंडल):–

10/06/24

10.6.24

# FOUR YEAR UNDERGRADUATE PROGRAM-2024-28

## FACULTY OF COMMERCE
## COURSE CURRICULUM

| PART-A : Introduction | | | | |
|---|---|---|---|---|
| **Program : Bachelor in Commerce (Certificate/Diploma/Degree /Honors** | | **Semester- I** | **Session : 2024-25** | |
| 1 | **Course Code** | COGE-02 | | |
| 2 | **Course Title** | Business Law | | |
| 3 | **Course Type** | Generic Elective Course (COGE) | | |
| 4 | **Pre-requisite (if any)** | As per program | | |
| 5 | **Course Learning Outcomes (CLO)** | • Demonstrate the basic concepts terms & provisions of business law.<br>• Classify various types of contract and illustrate the related case studies.<br>• Interpret the regulation governing the Contract of Sale of Goods.<br>• Discuss the laws governing partnership and legal consequences of the transactions and other actions in relation with the partnership, and examine contractual obligations and provisions governing limited liability partnership.<br>• Explain the significant provisions of the Negotiable Instrument Act and provisions of the Consumer Protection Act to protect the interest of the consumers. | | |
| 6 | **Credit Value** | **4 Credits** | Credit= 15 Hours-learning & Observation | |
| 7 | **Total Marks** | **Max. Marks : 100** | | **Minimum Passing Marks : 40** |

**PART- B: Content of the Course**

Total No. of Teaching-learning Periods ( 01 Hr. per period)-60 Periods(60 Hours)

| Unit | Topics (Course Contents) | No. of Period |
|---|---|---|
| I | **Law of contract (1872):** Nature of contract classification; offer and acceptance, Capacity of parties to contract, free consent, considerations, Agreement declared void, Performance of Contract, and Discharge of Contract, Remedy for Breach of Contract. | 15 |
| II | **Special contracts**: Indemnity &; Guarantee, Bailment and pledge; Law of Agency- Meaning, Modes of creating Agency, Types of Agents, Personal Liability of an Agent and Termination of Agency. | 15 |
| III | **Sale of Goods Act (1930):** Definition, Sale &; Agreement to sale, Types of Goods, Conditions & Warranties, Sale by Non-owners, Unpaid Seller, CIF, FOB and Ex-Ship Contracts. **The Consumer Protection Act 2019** | 15 |
| IV | **Negotiable Instrument Act 1881:**Negotiable Instrument Act (1881) Definition of Negotiable instrument; Feature; promissory note; Bill of exchange cheque; Holder and holder in the due course; crossing of a cheque, types of crossing; Negotiation; dishonor and discharge of negotiable instrument, **Limited Liabilities Partnership Act 2008.** | 15 |
| Key Words | Law of Contract, Special Contract, Sale of Goods Act, Consumer Protection Act, Negotiable Instrument Act, Limited Liabilities Partnership Act. | |

**Signature of Convener & Members (CBoS):**

| **PART-C:Learning Resources** | | |
|---|---|---|
| **Text Books,Reference Books and Others** | | |
| Text Books Recommended:-<br>1.Shukla & Sahaya, Sahitya Bhawan Publication, Agra(Hindi Medium)<br>2.Prof.R.C.Agrawal,SBPD Publication, Agra (HindiMedium)<br>3.Dr.O.P.Gupta,SBPD Publication,Agra (English Medium)<br>4. Dr. G.K. Varshney: Business Law; Sahitya Bhawan Publication Agra (English Medium)<br>5.Dr.B.K.Singh & Dr.A.Tiwari, Business Regulatory Framework, SBPD Publications (Hindi Medium)<br>6.R.L.Naulakha,Business Law, Ramesh Book Depo,Jaipur (Hindi Medium)<br>7.Dr.Arun Kumar Gangele, Business Regulartory Framework, Ramprasad & Sons,(Hindi Medium)<br>**Note: Learners are advised to use latest edition of text books.** | | |
| **Reference Books:**<br>1.Kuchal M.C. Business Law: Vikas publishing house, Delhi. (Hindi & English Medium)<br>2. Kapoor N.D.: Business Law; Sultanchand & Sons, New Delhi. (English Medium)<br>3. Chandha P.R.: Business Law; Galgotia New Delhi. (English Medium) | | |
| **On line Resources : * e-Resources/e-books and e-learning portals:**<br>https://onlinecourses.swayam2.ac.in/nou24_cm11/preview<br>https://www.toppr.com/guides/business-law/<br>https://www.youtube.com/watch?v=BZshaldOlUo<br>https://www.youtube.com/watch?v=HrF9D2V8Ixk<br>https://www.youtube.com/watch?v=ol2BXgF-P48 | | |
| **PART-D:Assessment and Evaluation** | | |
| **Suggested Continuous Evaluation Methods: Maximum Marks** | | **100 Marks** |
| **Continuous Internal Assessment (CIA) :** | | **30 Marks** |
| **End Semester Exam. (ESE) :** | | **70 Marks** |
| Continuous Internal Assessment(CIA) :<br>(By Course Teacher) | Internal Test/Quiz-(2) : 20 & 20<br>(Assignment/Seminar)- 10<br>Total Marks - 30 | Better Marks out of the Two Test/Quiz + obtained marks in Assignment shall be considered against 30 Marks |
| End Semester Exam.(ESE): | Two Section :- A & B<br>**Section A:** Q.1.Objective**10x1=10 Marks**;Q.2.Short Answer type-**5x4=20 Marks**<br>**Section B :** Descriptive answer type qts., 1 out of 2 from each unit-**4x10=40 Marks** | |

**Name and Signature of Convener & Members of (CBoS) :**

10/6/24

10/6/24

10/06/24