

CVM UNIVERSITY
FIRST YEAR B. Sc. (SEMESTER 1)
[For B.Sc. General & Honours]
ELECTIVE BIOLOGY - I
(Two Credit Course, Two hours per week)
(Effective from June – 2020)
(Total Marks-100, Internal-40 marks, External -60 marks)
UG01EBIO01 (T)

Unit -1 Diversity in living world

- Living world, Biological classification (Whittaker's)
- Plant kingdom, Animal Kingdom (Major phyla with examples)

Unit -2 Structural organisation in plants and animals

- Morphology of flowering plant (Stem,Leaf and Root)
- Anatomy of flowering plant(Types of tissue system)
- Structural organisation in Animals (Types of animal tissue)

Unit-3 Cell Biology

- Cell and biomolecules
- Prokaryotic and Eukaryotic cell (Plant cell and Animal cell)
- Ultra structure of various cell organelles

Unit-4 Physiology

- Mineral nutrition and Transport of minerals
- Physiological process- Photosynthesis,Respiration,,growth and development
- Blood- composition and function
- Types of circulation-Open and Closed
- Types of heart- Myogenic and neurogenic
- Digestion,Body fluid and circulation, Locomotion and movement
- Neural control and coordination, Chemical coordination and integration

Reference Books:

- 1.Modern textbook of Zoology (Invertebrate) - R L Kotpal
2. Modern textbook of Zoology (Vertebrate) - R L Kotpal
- 3.Invertebrate Zoology- Jordan and Verma
4. Cordate Zoology-Jordan and Verma
5. Animal Physiology- A K Berry
- 6.Animal Physiology- M P Arora
- 7.College Botany Vol I,II & III- Gaguli, Das and Dutta
- 8.Cell Biology- P S Verma
- 9.Cell Biology,Genetics, Molecular Biology,Evolution & Ecology- P S Verma and V K Agrawal
- 10.Cell and Molecular Biology- De Robertis and Robertis
- 11.Plant Physiology- V K Jain

CVM UNIVERSITY
FIRST YEAR B. Sc. (SEMESTER 1)
[For B.Sc. General & Honours]
ENVIRONMENTAL STUDIES I
(Two Credit Course, Two hours per week)
(Effective from June – 2020)
(Total Marks-100, Internal-40 marks, External -60 marks)
UG01EENV01 (T)

Unit-1 Overview of Environmental Studies:

Definition, Scope, Interdisciplinary importance of Environmental Studies. Environmental Education (Concept, Needs). Environment & Society- Role of Government and Non-government Organizations. Social Issues of Environment, Environmental Movements (Chipko Movement, Narmada BachaoAndolan).

Unit2 Environment & Pollution:

Introduction, Characteristics, Classification, Sources, Effects and Control of Soil Pollution, Water Pollution, Air Pollution and Noise Pollution.

Unit-3 Natural Resources and Geo-chemical cycles:

Sources, Classification, Uses, Degradation and Management of Renewable & Non-renewable resources (Water, Forest, Solar, Wind and Mineral)

Unit-4 Environmental Biodiversity

Introduction, History, Socioeconomic benefits, Levels (Genetics, Specific and Ecosystem) Hotspots of Biodiversity, Threats to Biodiversity, Endangered and Endemic species, steps taken by Indian Government to protect Biodiversity

Suggested Readings:

1. Ecology and Environment by P D Sharma
2. Fundamentals of Ecology by E P Odum
3. Ecology by Mohan P Arora
4. Fundamentals of Ecology by M C Dash
5. Environmental Science by M C Santra
6. An Introduction to Environmental Engineering and Science by Gilbert N Master
7. Encyclopedia of Environmental Pollution and Control by R K Trivedi
8. Ecology and Sustainable Development by P S Ramkrishna
9. Environmental Conservation; Fundamentals of Ecology Vol 5 by S S Negi , Bisen Singh, Mahendra Pal Singh

CVM University

Syllabus for B.Sc Sem-1 (General and Honours)

Sub: Mathematics

Course code: UG01EMTH01

Course Title: Mathematics-1

Credit – 2 (Max Marks 100: 60 Ext.+40 Int.)

Effective from June, 2020

Unit 1 :

Function: Domain, Range, One-one, onto function, composition of functions, Complex number: Algebra of complex number. Quadratic equation and its solution.

Unit 2 :

Exponential and Logarithmic function : Elementary properties. Trigonometric functions: sine, cosine, tan, cot, cosec, sec and their inverse function. Formulae: $\cos(AB)$, $\sin(AB)$, $\tan(AB)$, $\sin(2\theta)$, $\cos(2\theta)$, $\tan(2\theta)$.

Unit 3 :

Determinant: 2×2 , 3×3 order, Expansion, elementary properties, Matrices : 2×2 , 3×3 order, Algebra of matrices (Addition, Scalar product, product of two matrices)

Unit 4 :

Vector algebra: Vector space R^2 and R^3 , Operation: Addition, scalar multiplication and vector multiplication, magnitude of vector, Inner product, Box/Triple product, angle between two vectors.

REFERENCE BOOKS:

1. Maths - 1 and Maths - 2 Of Std. 11, Gujarat State Board, 2008.
2. College Algebra, 2nd Edition, By Spiegel M.R., Moyer R.E., Tata Macgrowhill Publishing Co. Ltd.
3. Analytic Calculus, Fuller and Parker.
4. Differential Calculus, By Shanti Narayana, S.Chand Publishing co.,
5. Vasavada H.M., Analytical geometry of two and three dimensions, 1992