

2024/2025 SYLLABUS DISTRIBUTION



SUBJECT: BIOLOGY (9700) **GRADE: 12**

Term 1

12. Energy and Respiration

13. Photosynthesis

14. Homeostasis

15. Control and Coordination



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SUBJECT (Chemistry) GRADE (12)

Term 1

23 Chemical Energetics

Lattice energy and Born-Haber cycles
Enthalpies of solution and hydration
Entropy change, ΔS
Gibbs free energy change, ΔG

24 Electrochemistry

Electrolysis
Standard electrode potentials E^\ominus ; standard cell potentials E^\ominus_{cell} and the Nernst equation

25 Equilibria

Acids and bases
Partition coefficients

26 Reaction kinetics

Simple rate equations, orders of reaction and rate constants
Homogeneous and heterogeneous catalysts

27 Inorganic chemistry

Group 2
Similarities and trends in the properties of the Group 2 metals, magnesium to barium, and their compounds



SUBJECT (COMPUTER SCIENCE 9618)

GRADE (12)

Term 1

13. Data Representation

13.1 User-defined data types

13.2 File organisation and access

13.3 Floating-point numbers, representation and manipulation

14 Communication and internet technologies

14.1 Protocols

14.2 Circuit switching, packet switching

15 Hardware and Virtual Machines

15.1 Processors, Parallel Processing and Virtual Machines

15.2 Boolean Algebra and Logic Circuit

16 System Software

16.1 Purposes of an Operating System (OS)

16.2 Translation Software

17 Security

17.1 Encryption, Encryption Protocols and Digital certificates

18 Artificial Intelligence (AI)

18.1 Artificial Intelligence (AI)

19 Computational thinking and problem solving

19.1 Algorithms

19.2 Recursion



SUBJECT Mathematics
GRADE 12

Term 1

- **Mechanics - 4.1 Forces and Equilibrium**
- **Pure 3 - 3.1 Algebra**
- **Pure 3 - 3.2 Logarithmic and exponential functions**
- **Mechanics - 4.2 Kinematics of motion in a straight line**
- **Pure 3 - 3.3 Trigonometry**
- **Pure 3 - 3.4 Differentiation**
- **Pure 3 - 3.5 Integration**
- **Mechanics - 4.3 Momentum**



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SUBJECT: Physics **GRADE 12**

Term 1

TOPIC 12 –MOTION IN A CIRCLE

- 12.1 Kinematics of uniform circular motion
- 12.2 Centripetal acceleration

TOPIC 13-GRAVITATIONAL FIELDS

- 13.1 Gravitational field
- 13.2 Gravitational force between point masses
- 13.3 Gravitational field of a point mass
- 13.4 Gravitational potential

TOPIC 14-TEMPERATURE

- 14.1 Thermal equilibrium
- 14.2 Temperature scales
- 14.3 Specific heat capacity and specific latent heat

TOPIC 15-IDEAL GASES

- 15.1 The mole
- 15.2 Equation of state
- 15.3 Kinetic theory of gases

TOPIC 16- THERMODYNAMICS

- 16.1 Internal energy
- 16.2 The first law of thermodynamics

TOPIC 17-OSCILLATIONS

- 17.1 Simple harmonic oscillations
- 17.2 Energy in simple harmonic motion
- 17.3 Damped and forced oscillations, resonance

TOPIC 18-ELECTRIC FIELDS

- 18.1 Electric fields and field lines

18.2 Uniform electric fields

18.3 Electric field between point charges

18.4 Electric field of a point charge

18.5 Electric potential

TOPIC 19 –CAPACITANCE

19.1 Capacitors and capacitance

19.2 Energy stored in a capacitor

19.3 Discharging a capacitor

TOPIC 20- MAGNETIC FIELDS

20.1 Concept of a magnetic field

20.2 Force on a current-carrying conductor

20.3 Force on a moving charge

20.4 Magnetic fields due to currents

20.5 Electromagnetic induction

TOPIC 21-ALTERNATING CURRENTS

21.1 Characteristics of alternating currents

21.2 Rectification and smoothing