

## BIBLIOGRAPHY FOR THE ADMISSIONS EXAM IN BIOLOGY

### romanian

- biology textbook grade 9
- biology textbook grade 10
- biology IB study guide

### english

1. The handy biology answer book (Handy Answer Book); Barnes-Svarney, Patricia L — Visible Ink Press, 2015
2. Biology : course companion; Allott, Andrew— Oxford University Press, 2023
3. Biology study and revision guide; Davis, Andrew — Hodder Education, 2017
4. Biology SL Revise IB Testprep Workbook; Dawson, Cameron — Extend Education, 2021
5. Biology for IB diploma course preparation; Bkerat, Marwa — Oxford University Press, 2018
6. Biology for the IB Diploma [Grades 7 and up]; Walpole, Brenda — Cambridge University Press, 2014

## BIBLIOGRAPHY FOR THE ADMISSIONS EXAM IN CHEMISTRY

### romanian

1. Luminița Vlădescu , Irinel Adriana Badea, Luminița Irinel Doicin - Manual de chimie clasa a IX-a, Ed. ART, 2005
2. Luminița Vlădescu , Irinel Adriana Badea, Luminița Irinel Doicin – Culegere de teste , exerciții și probleme practice , clasa a IX-a, Ed. ART, 2022
3. Luminița Vlădescu , Corneliu Tărăbășanu- Mihăilă, Luminița Irinel Doicin- Manual de chimie clasa a X-a, Ed. ART, 2022
4. Luminița Vlădescu , Corneliu Tărăbășanu- Mihăilă, Luminița Irinel Doicin - Culegere de teste, probleme teoretice, probleme practice, clasa a X-a, Ed. ART, 2022

### english

1. What is chemistry ? Atkins, P. W — Oxford University Press, 2013
2. Chemistry : course companion; Bylikin, Sergey— Oxford University Press, 2023
3. Chemistry : MYP by concept 4 & 5 ; Termaat, Annie — Hodder Education, an Hachette UK company, 2016
4. MYP chemistry : a concept based approach; Horner, Gary — Oxford University Press, 2018
5. Chemistry for the IB diploma : exam preparation guide; Owen, S. M — Cambridge University Press, 2015
6. Chemistry for the IB Diploma' Neuss, Geoffrey — Oxford University Press, 2014

# SYLLABUS AND BIBLIOGRAPHY

## FOR THE ADMISSIONS EXAM IN MATHEMATICS

### NUMBERS AND ALGEBRA

• Absolute values • Representing and solving Inequalities, including compound and double inequalities  
• Irrational numbers • Surds, roots and radicals including simplifying • Standard form (scientific Notation) • Laws of exponents, including fractional/rational exponents • Number systems notation • Direct & Inverse proportion • Number sequences (prediction, description). • Logarithms, including laws of logarithms and use of technology to find values • Upper and lower bounds • Factorising quadratic expressions • Solving quadratic equations • Changing the subject of equation • Arithmetic & geometric sequences • Exponential equations • Rationalizing the denominator • Number bases • Arithmetic & geometric series and summation • Sigma notation. **Mappings** • Function notation • Linear functions •  $y = mx + c$  (see also Geometry & Trigonometry) • Parallel and perpendicular lines (see also Geometry & Trigonometry) • Systems of equations/simultaneous equations • Quadratic functions • Representation and shape of more complex functions • Transformation of quadratic functions • Rational functions • Graphing trigonometric functions • Domain and Range • Exponential functions • Logarithmic functions • Transforming cubic and trigonometric functions • Composite functions • Inverse functions

### GEOMETRY

• Metric conversions • Similarity and Congruence • Coordinate Geometry, including distance, midpoint and gradient formulae • Movement on a plane: Isometric transformations, enlargements and tessellations •  $y = mx + c$ , gradients and intercepts (see also Functions and Models) • Gradient of parallel lines • Circle geometry • Rotation around a given point • Dilation • Inscribing and Circumscribing shapes • Arc length & sector • Polar coordinates • Vector notation • Vector spaces

### TRIGONOMETRY

• Triangle properties • Bearings • Pythagoras' theorem • Trigonometric ratios in right-angled triangles • Converse of Pythagoras' theorem • Sine Rule and Cosine rule, including applications (link to trigonometric functions) • Three-dimensional coordinate geometry • Area of a triangle rule • Unit Circle • Equation of a circle with centre at the origin • Trigonometric identities.

## DATA AND PROBABILITY

Sampling techniques • Data manipulation and misinterpretation • Graphical representations including bivariate graphs, scatter graphs, box plots, cumulative frequency graphs • Lines of best fit • Data processing: Quartiles and Percentiles • Measures of dispersion: Interquartile range • Correlation, qualitative handling • Relative frequency • Response rates • Sets, including notation and operations up to three sets Probability with Venn Diagrams, tree diagrams and sample spaces • Mutually exclusive events • Combined events • Measure of dispersion: Standard deviation • Correlation, quantitative handling, using technology • Histograms for continuous fixed interval groups • Addition and multiplication rule - Conditional probability • Probability calculations • Dependent and Independent events • Manual calculation of Standard deviation, correlation coefficient • Histograms & frequency polygons • Covariance • Interpolation and Extrapolation • Confirmation bias • Counting principles • Combinatorics • Permutations • Factorials • Geometric mean • Regression– interpretation of results

### Bibliography

- 1) Matematica – manual pentru clasa a 9-a, Trunchi comun si curriculum diferentiat, Ed. Mathpress 2008
- 2) Matematica – manual pentru clasa a 10-a, Trunchi comun si curriculum diferentiat, Ed. Mathpress 2005

# BIBLIOGRAPHY FOR THE ADMISSIONS EXAM IN PHYSICS

romanian

1. Manual Fizica pentru clasa a IX A, F1
2. Manual Fizica pentru clasa a X A, F1
3. Culegere de fizică pentru clasele 9-10; Alice Stan, Maria Dinică, Luminița Dinescu
4. Culegere de probleme propuse si rezolvate pentru clasa a IX-a si examenul de Bacalaureat; Mihaela Chirita
5. Fizica, culegere de probleme propuse si rezolvate pentru clasa a X-a si BACALAUREAT;

Chirita, Mihaela english

1. Physics textbook 9th grade
2. Physics textbook 10th grade
1. Fundamentals of Physics Textbook; Walker, David Halliday, Robert Resnick
2. University Physics with Modern Physics-; Sears and Zemansky
5. PHYSICS MCQS FOR IIT JEE NEET IAS SAT MAT Multiple Choice Questions Answers Fully Solved
6. A Level Physics Quiz Questions Answers: Multiple Choice MCQ Practice Tests; Arshad Iqbal