



آغا خان یونیورسٹی ایگزامینیشن بورڈ
AGA KHAN UNIVERSITY EXAMINATION BOARD

Teaching and Learning Resources for Grade XI Biology

Recommended Key Textbook:

Biology for Grade 11, Punjab Textbook Board, Lahore

Additional Recommended Resource Material				
Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
1.	Introduction to Biology	A Textbook of Biology (11), STB	Introduction to Biology	http://www.britannica.com
2.	Biological Molecules	Michael Kent. (2000) (1 st Edition). Advanced Biology Pakistan: OUP.	Chemicals of Life	https://ib.bioninja.com.au/
		A Textbook of Biology (11), STB Biology by Solomon Berg Martin Ninth Edition Understanding Biology for Advanced Level Cambridge International AS and A level Biology (CJ Clegg) Biology in Context for Cambridge International AS and A level Glenn and Susan Toole (Second/ Third Edition)	Biological Molecules	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
3.	Enzymes	Understanding Biology for Advanced Level Biology by Solomon Berg Martin Ninth Edition Biology in Context for Cambridge International AS and A level Glenn and Susan Toole (Second/ Third Edition)	Enzymes	Enzyme Inhibition IB Biology https://ib.bioninja.com.au/
4.	The Cell	Glenn and Susan Toole (3 rd Edition). Understanding Biology for Advanced Level Biology by Solomon Berg Martin Ninth Edition	Cell Structure	https://ib.bioninja.com.au/
5.	Classification and Acellular Life	Campbell & Reece. (8 th or 9 th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Viruses	https://ib.bioninja.com.au/
		A Textbook of Biology (11), STB	Variety of Life	
6.	The Kingdom Prokaryote	Campbell & Reece. (8 th or 9 th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Bacteria and Archae	https://ib.bioninja.com.au/
		A Textbook of Biology (11), STB	The Kingdom Prokaryotae	

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7.	The Kingdom Protoctista	Campbell & Reece. (8th or 9th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Protists	
		A Textbook of Biology (11), STB	The Kingdom Protista	
8.	The Kingdom Fungi	Campbell & Reece. (8 th or 9 th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Fungi	
		A Textbook of Biology (11), STB	The Kingdom Fungi	
9.	The Kingdom Plantae	Campbell & Reece (8th or 9th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Plant Diversity I and II	Mosses Bryophyte life cycle Reproductive Cycle of Flower Plants https://www.biologydiscussion.com/ https://bio.libretexts.org/Books/helves/Introductory_and_General_Biology/Book%3A_Biology_(Kimball)/16%3A_The_Anatomy_and_Physiology_of_Plants
		A Textbook of Biology (11), STB	The Kingdom Plantae	

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
10.	The Kingdom Animalia	Campbell & Reece. (8th or 9th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	An Overview of Animal Diversity	
		A Textbook of Biology (11), STB	The Kingdom Animalia	
11.	Bioenergetics	Glenn and Susan Toole (3 rd Edition). Understanding Biology for Advanced Level Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	<ul style="list-style-type: none"> • Energy and Respiration • Photosynthesis 	Photosynthesis Light reaction, Calvin cycle, Electron Transport 3D Animation https://ib.bioninja.com.au/
12.	Nutrition	D.J. Taylor. (1997) (3 rd Edition). Biological Science I. UK: Cambridge University Press. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	Autotrophic Nutrition and Heterotrophic Nutrition	https://ib.bioninja.com.au/

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
13.	Gaseous Exchange	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	Circulation and Gas Exchange.	https://ib.bioninja.com.au/ https://www.britannica.com https://organismalbio.biosci.gatech.edu/
14.	Transport	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	<ul style="list-style-type: none"> • Circulation and Gas Exchange • Immune System 	https://ib.bioninja.com.au/ https://organismalbio.biosci.gatech.edu/

Note: This resource list has been prepared primarily for teachers. While it can be shared with students, students should not be required to buy multiple books. Schools are encouraged to stock these books in the library. Moreover, these are only suggestions which have been compiled for the ease of teachers and students; schools are encouraged to use other resources for teaching and learning as well, as long as they are in line with the student learning outcomes (SLOs) mentioned in AKU-EB syllabi. Unless specified, AKU-EB does not endorse any of these books or websites. You are advised to use an ad-blocker while accessing the websites. In case any website is not functional for any reason, you may inform us at examination.board@aku.edu for an alternative or search material via any search engine. If you have any query, please contact us via email.



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Teaching and Learning Resources for Grade XII Biology

Recommended Key Textbook:

Biology for Grade 12, Punjab Textbook Board, Lahore

Additional Recommended Resource Material				
Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
15.	Homeostasis	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	Osmoregulation and Excretion	https://ib.bioninja.com.au/

Topic No.	Topic Title	Reference Book	Topic in the Reference Book	Reference Website
16.	Support and Movement	<p>Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg)</p> <p>Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition</p>	Sensory and Motor Mechanisms	<p>Muscle Contraction - Cross Bridge Cycle, Animation https://www.youtube.com/watch?v=BVcgO4p88AA</p> <p>https://ib.bioninja.com.au/</p>
17.	Co-ordination and Control	<p>Campbell & Reece. (8th or 9th Edition). Biology by Solomon Berg Martin Ninth Edition</p>	<ul style="list-style-type: none"> Hormones and Endocrine System Animal Behaviour 	<p>The Human Nervous System Part 1</p> <p>Human nervous system part 2. https://ib.bioninja.com.au/</p>
		<p>Biology Glenn and Susan Toole (3rd Edition). Understanding Biology for Advanced Level Cambridge International AS and A level Biology (CJ Clegg)</p> <p>Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition</p>	<ul style="list-style-type: none"> Neurons, Synapse and Signalling Nervous System 	<p>Action Potential in the Neuron https://www.youtube.com/watch?v=oa6rvUJlg7o</p>

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18.	Reproduction	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	Animal Reproduction.	https://ib.bioninja.com.au/
19.	Growth and Development	Campbell & Reece. (8th or 9th Edition). Biology. Biology by Solomon Berg Martin Ninth Edition	Animal Development	https://ib.bioninja.com.au/
		A Textbook of Biology (12), STB	Growth and Development	
20.	Chromosome and DNA	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole) Biology by Solomon Berg Martin Ninth Edition	Molecular Basis of Inheritance. From Gene to Protein	Protein Synthesis Animation Video DNA Replication Process 3D Animation https://ib.bioninja.com.au/

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21.	Cell Cycle	<p>Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg)</p> <p>Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole)</p> <p>Biology by Solomon Berg Martin Ninth Edition</p>	Meiosis and Sexual Life Cycles	<p>Meiosis Crossing Over and Variability 3D Animation</p> <p>https://ib.bioninja.com.au/</p>
22.	Variation and Genetics	<p>Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg)</p> <p>Biology by Solomon Berg Martin Ninth Edition</p> <p>Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole)</p>	Mendel and the Gene Idea. Chromosomal Basis of Inheritance	<p>https://ib.bioninja.com.au/</p>

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23.	Biotechnology	Campbell & Reece. (8th or 9th Edition). Biology. Cambridge International AS and A level Biology (CJ Clegg) Biology by Solomon Berg Martin Ninth Edition Biology in Context For Cambridge International AS and A level (Second Edition, Glen and Susan Toole)	Biotechnology	PCR (Polymerase Chain Reaction) https://www.youtube.com/watch?v=iQsu3Kz9NYo https://ib.bioninja.com.au/
24.	Evolution	A Textbook of Biology (12), STB Biology by Solomon Berg Martin Ninth Edition	Evolution	https://www.khanacademy.org/science/ap-biology/natural-selection/hardy-weinberg-equilibrium/a/hardy-weinberg-mechanisms-of-evolution https://ib.bioninja.com.au/
25.	Ecosystem	A Textbook of Biology (12), STB	Ecosystem	https://ib.bioninja.com.au/
26.	Some Major Ecosystems	A Textbook of Biology (12), STB	Some Major Ecosystems	
27.	Man and his Environment	A Textbook of Biology (12), STB	Man and his Environment	

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