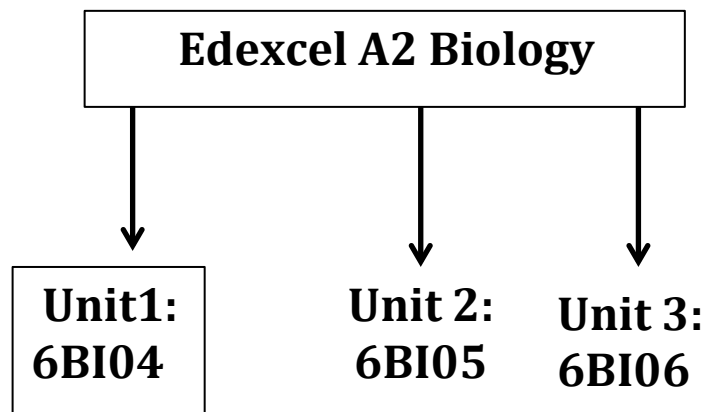


Edexcel A2 GCE Biology (9BI01)

Edexcel A2 UNIT 4: The Natural Environment and Species Survival



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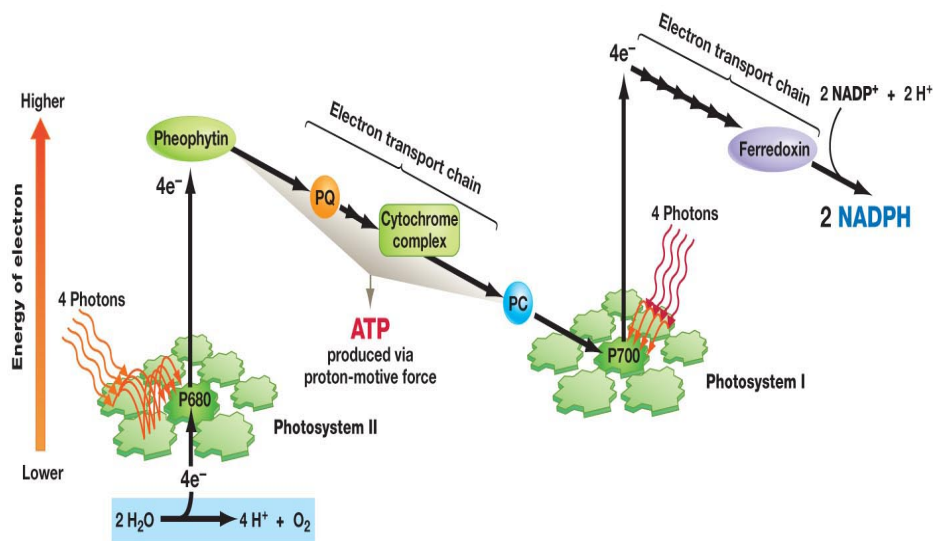
Unit 6BI04: The natural environment and species survival																																														
1. Exam paper- The natural environment and species survival 08 th June 2015	20 % of Advanced GCE Biology																																													
Overview of content																																														
<ul style="list-style-type: none"> • Photosynthesis; energy transfer within ecosystems • Evidence for global warming • Evolution through natural selection and speciation • Nutrient recycling • DNA profiling and PCR • Structure of bacteria and viruses • Infectious diseases (eg AIDS and TB) and immunology. 																																														
Overview of assessment																																														
<ol style="list-style-type: none"> 1. The unit is assessed through a 1-hour and 30 min examination paper set and marked by Edexcel. 2. The total number of marks is 90 and contains objective questions, short-answered and structured questions. 3. Grades A*–E are available. 4. Grades assessment by year: 																																														
<table border="1"> <thead> <tr> <th>Year</th> <th>Raw Marks to 90 % UMS - A*</th> <th>Raw Marks to 80 % UMS grade 'A'</th> </tr> </thead> <tbody> <tr><td>Jan 2009</td><td></td><td>-</td></tr> <tr><td>Jun 2009</td><td></td><td>-</td></tr> <tr><td>Jan 2010</td><td>-</td><td>59</td></tr> <tr><td>Jun 2010</td><td>63</td><td>58</td></tr> <tr><td>Jan 2011</td><td>58</td><td>54</td></tr> <tr><td>Jun 2011</td><td>60</td><td>56</td></tr> <tr><td>Jan 2012</td><td>67</td><td>62</td></tr> <tr><td>Jun 2012</td><td>63</td><td>58</td></tr> <tr><td>Jan 2013</td><td>67</td><td>63</td></tr> <tr><td>Jun 2013</td><td>61</td><td>56</td></tr> <tr><td>Jun 2013 -R</td><td>67</td><td>62</td></tr> <tr><td>Jun 2014</td><td>75</td><td>69</td></tr> <tr><td>Jun 2014 -R</td><td>77</td><td>71</td></tr> <tr><td>Jun 2015</td><td>?</td><td>?</td></tr> </tbody> </table>		Year	Raw Marks to 90 % UMS - A*	Raw Marks to 80 % UMS grade 'A'	Jan 2009		-	Jun 2009		-	Jan 2010	-	59	Jun 2010	63	58	Jan 2011	58	54	Jun 2011	60	56	Jan 2012	67	62	Jun 2012	63	58	Jan 2013	67	63	Jun 2013	61	56	Jun 2013 -R	67	62	Jun 2014	75	69	Jun 2014 -R	77	71	Jun 2015	?	?
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Edexcel A2 GCE Biology

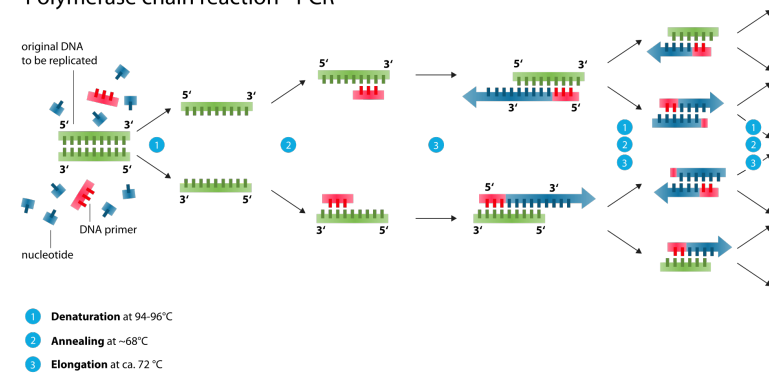
A2 unit 6BI04: The Natural Environment and Species Survival

Module 1: *On the Wild Side*

Module 2: Infection, immunity and forensics



Polymerase chain reaction - PCR



How BioChem Tuition prepares their students for 6BI04: *The natural environment and species survival?*

BioChem Tuition has a three-pronged strategy to prepare students for unit 6BI04 that helps them attain grade A or A*.

1. **Detailed 6BI04 knowledge:** The students will study the specification of Edexcel 6BI04 alongside extensive practice of examination style questions to help them retain the content of the specification. The students will receive detailed 6BI04 notes prepared by BioChem Tuition.

Key features

- ✓ 6BI04 specification notes.
 - ✓ 6BI04 examination style past examination questions.
 - ✓ 1-2-1 help in understanding the key examiner points.
 - ✓ Revision notes and charts to aid revision.
2. **Practice Edexcel past examination papers (1995-2014):** The students will complete at least 14 years of Edexcel past exam papers. BioChem Tuition will provide all the past papers in printed form to the students. Candidates are required to complete past papers, which are checked and marked in light of the official examiner report and mark scheme. Any mistakes will be followed up to ensure the mistakes are not repeated. The students will be shown how to maximise their marks by following our exam technique and also methods to improve comprehension for scientific questions.

Key features

- ✓ 14 years of past examination papers practice.
 - ✓ 1-2-1 help in understanding the exam technique.
 - ✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated.
 - ✓ Past paper practice can be extended by solving 6BI04 style questions from AQA, CIE and OCR exam boards.
3. **Mock examination practice:** Mock 6BI04 examination practice to give students feedback on the likely grade achievable in the exams.

Key features

- ✓ Mock examination practice to simulate exam experience, which will be marked, graded and feedback on mistakes provided.

How To Achieve Grade 'A' or 'A*'
6BI04: *The Natural Environment and Species Survival*

Intensive tutoring	Past papers practice (1995-2014)	Mock examination practice
1. Cover 6BI04 Specification 2. Practice examination style questions	1. Solve 6BI04 past papers. 2. Revisit the mistakes/revise topics	1. Solve mock examination papers to prepare for the exam

6BI04 Tuition Plan

Tuition Plan for 6BI04: The Natural Environment and Species Survival	
Stage 1: Specification Topics	Tuition time
Module 1: On the wild side	12 hours
<ul style="list-style-type: none"> • Structure of chloroplasts and their adaptability to the role in photosynthesis. • Photosynthetic reactions, light dependent stage and light independent stage of photosynthesis. • The ATP synthesis and gross & net primary productivity. • The efficiency of energy transfer between trophic levels. • Carbon cycle, the control of the distribution of organism in a habitat. • Study ecology of a habitat. • The concept of niche and abundance of organisms in a habitat. • The concept of succession to a climax community. • Global warming, green house effects and global warming. • Effect of increasing temperature on the rate of enzymatic activity in plants, animals and microorganisms. • Investigating the affect of temperature on the development of organisms. • Evidence for global warming and extrapolation of the data to make predictions. • Evolutionary selection and speciation. • Validating evidence through peer-review process. 	6 hour
<ul style="list-style-type: none"> • Practice of past examination style questions on the wild side. 	6 hour

Module 2: Infection, immunity and forensics	12 hours
<ul style="list-style-type: none"> • The nature of the genetic code • Transcriptions and translation – central dogma • Post-transcriptional processing • DNA profiling, PCR, electrophoresis • The structure of bacterial and viruses. • The role of micro-organisms in the decomposition of organic matter. • Barriers to entry of pathogen. • Bacterial and viral infections. • Immune response of body to infection. – Innate immune response • The production of antibodies to antigens. • The role of B cells and T cells in the body's immune response. • The process of immunity. • The theory of 'evolutionary race' between pathogens and the hosts. • The difference between bacteriostatic and bacteriocidal and antibiotics. • Investigate the affect of different antibiotics on bacteria • Hospital-based infections • Determining the time of death of mammals by investigating extent of decomposition, stage of succession, forensics entomology, body temperature and degree o muscle contraction. 	6 hours
<ul style="list-style-type: none"> • Practice of past examination style questions on infection, immunity and forensics. 	6 hours

Stage 2: Past paper practice	10 hours
<ul style="list-style-type: none">• Practice of past examination papers from 1995 to 2014 relevant to 6BI04: The Natural Environment and Species Survival.✓ At least 10 years of past examination papers practice.✓ 1-2-1 help in understanding the exam technique.✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated.✓ Past paper solving 6BI04 style questions from other exam boards such as AQA, CIE and OCR can extend practice.	10 hours