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Subject	Focus	Activities	Useful Websites/Apps
Arabic (Arabs)	TOPIC: قصيدة واحر قلباه طفل وكلب ذات ليل قصة كتابة استجابة لنص أدبي **(Learning objectives:** .أن يحلل النصّ الشّعريّ تحليلًا فكريًا ونقديًا وبلاغيًا .أن يوضح الفكرة الرئيسة والأفكار الفرعية .أن يستنتج الدلالات التعبيرية أن يستنتج القيم الواردة بالنص أن يقارن الطالب بين النص ونص آخر موضحا أوجه التشابه والاختلاف أن يكتب استجابات شخصية للنصوص تعكس فهمه للمعنى أن يراجع مسودات متعددة لما يكتب ، ويعيد تحريرها أن يحدد النقاط الرئيسة التي قام عليها النص -أن يحلل المتعلم أفكار القصة رابطا إياها برؤية الكاتب وتجربته الفنية . أن يحلل جوتنب النصوص(إنشاء المكان والزمان). -أن يفسر المتعلم الكلمات مستعينًا بالمعجم الورقي والرقي.	.أن يحلل النصّ الشّعريّ تحليلًا فكريًا ونقديًا وبلاغيًا .أن يوضح الفكرة الرئيسة والأفكار الفرعية .أن يستنتج الدلالات التعبيرية أن يستنتج القيم الواردة بالنص أن يقارن الطالب بين النص ونص آخر موضحا أوجه التشابه والاختلاف أن يكتب استجابات شخصية للنصوص تعكس فهمه للمعنى أن يراجع مسودات متعددة لما يكتب ، ويعيد تحريرها أن يحدد النقاط الرئيسة التي قام عليها النص أن يحلل المتعلم أفكار القصة رابطا إياها برؤية الكاتب وتجربته الفنية أن يحلل جوتنب النصوص(إنشاء المكان والزمان). أن يفسر المتعلم الكلمات مستعينًا بالمعجم الورقي والرقي. أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ لإيصال الفكرة. أن يحلل المتعلم الأفكار في القصة.	https://www.youtube.com/watch?v=Kco5GrTb6fY https://www.youtube.com/watch?v=ZT4Bv1LOS_w https://www.youtube.com/watch?v=IbGGBhfOwuk

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	-أن يتتبع الأثر الذي يتركه أسلوب الكاتب ؛ لإيصال الفكرة. -أن يحلل المتعلم الأفكار في القصة. أن يميز اللغة الانفعالية والنغمة -		
Islamic Education (Arabs)	TOPIC: بيوت طاهرة – التفكر في الاسلام **Learning objectives:** يشرح معاني المفردات يستنتج الاحكام الاردة في الايات يبين أثر الالتزام بأحكام الشريعة في حفظ المجتمع يوضح نظرة لاسلام لذوي الاحتياجات الخاصة يبدى رأيه حول نشر السلام يشرح مفهوم التفكر يستنتج مجالات التفكر يبين ثمرات التفكر في أيات الله	يكتب بحثا عن زوجات النبي (ص) يكتب موضوعا عن العفة زأثارها على الفرد والمجتمع يكتب بحثا عن التفكر في الاسلام يكتب موضوعا عن قدرة الله تعالى في الكون	https://www.youtube.com/watch?v=lbooJoF9qd8 https://www.youtube.com/watch?v=AAqaNrIMCpY

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	يربط بين تنمية الفكر والرقي الحضاري		
Islamic Education (Non Arabs)	TOPIC: 1. SLANDER AGAINST AYESHA (RA) **Learning objectives:** ▫ **-To appreciate the magnificient character of Ayesha(RA)** ▫ **To comprehend the consequences of rumors on individual and society**	SEARCH AN EXAMPLE FROM SEERAH THAT SHOWS HOW DOES SPREADING RUMOR IS DANGEROUS. HOW CAN WE SAVE OURSELVES FROM BELIEVING THE RUMORS? RECORD THE VIDEO.	▫ https://www.youtube.com/watch?v=_MlFRyGpliU&ab_channel=OneIslamProductions
Accounting	• To interpret the meaning and features of consignment accounts. • To analyse why consignment is not a sale and explain the important terms used in consignment accounts.	• Prepare a Prezi presentation comprising the following – ➢ Interpretation of the meaning and features of consignment accounts. ➢ Reasons explaining why consignment is not a sale.	www.myaccountinglab.com, www.bized.co.uk www.cie.org.uk, http://www.accounting-world.com/

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	• To interpret the use and importance of financial appraisal techniques in the investment decision making process To make recommendations as to how the performance of a business, as revealed by a business could be improved.	➢ Explain the terms used in consignment accounts. • Present a report on the usefulness of financial appraisal techniques in investment decision. OR • Prepare a Ted Ed Flipped Lesson on the topic.	https://www.investopedia.com/ https://study.com/search/text/academy. html?q=accounting#/topresults/accounting
Economics	• To consolidate all the A level Topics covered so far • To develop independent researching and analytical skills	• Revise the syllabus topics covered for the Assessment on 26yth January 2022. • Complete the Winter Practice paper on Google classroom and submit. • Prepare group Presentations on the following topics: ➢ Characteristics of Developing countries ➢ Characteristics of developed countries ➢ Characteristics of emerging economies	www.tutor2u.net www.s-cool www.bized.ac.uk www.xtremepapers.com World Development Report Human Development Report
Business Studies	Unit –Strategic Management Topic – Strategic Choice ▪ To analyse strategic choices using the Ansoff's matrix model and Force Field analysis.	Apply Ansoff's growth matrix in a selected organisation and recommend suitable Ansoff's growth strategy to be adopted by the selected organisation.	www.bized.co.uk www.tutor2u.net Newspapers and Magazines

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			Text Book
Travel & Tourism	To analyse obstacles in creating a brand and evaluate in context how these might limit the effectiveness of the brand or its success.	Make an extensive research on • How is funding different for Visit Florida and Visit England? • Which is most likely to be effective and why? • What limitations are there for each?	www.campaignlive.co.uk/article/1101605/visitengland-funding-domestic-tourism-promotion# • www.orlandosentinel.com/news/politics/os-visit-florida-spending-tourism-20160326-story.html • www.visitflorida.com/en-us/about-visit-florida.html www.floridatrend.com/article/14761/visit-florida--reinvented
Physics	**Quantum Physics** • To explain photoelectric phenomena in terms of photon energy and work function energy • To recall and use the relation for the de Broglie wavelength λ = h/p	Research on • Use band theory to explain why the resistivity of an intrinsic semiconductor increases as the temperature decreases. • When electromagnetic radiation of wavelength 2000nm is incident on a metal surface, the maximum	www.cie.org.uk www.s-cool.co.uk/a-level/physics/quantum-physics

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	• To appreciate that, in a simple model of band theory, there are energy bands in solids • To understand the terms valence band, conduction band and forbidden band (band gap) • To use simple band theory to explain the temperature dependence of the resistance of metals and of intrinsic semiconductors • To use simple band theory to explain the dependence on light intensity of the resistance of an LDR **<u>CT scan</u>** Understand the principle of computed tomography	kinetic energy of the electrons released is found to be 4.0×10^{-20}J. Determine the work function of the metal in Joules. • Research on Why in commercial practice we always use the RMS value of AC and not the peak value or instantaneous value • What is the average power dissipated when a sinusoidal alternating current with a peak value of 3.0A flows through a 100 ohm resistor. Describe how the image of an 8-voxel cube can be developed using CT scanning	https://link.springer.com/article/10.1134/1.1187514 https://www.physics-and-radio-electronics.com/electronic-devices-and-circuits/introduction/energy-band-theory-in-solids.html https://radiopaedia.org/articles/computed-tomography https://www.medicalnewstoday.com/articles/153201.php

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Chemistry	**<u>Electrochemistry:</u>** • To determine the relationship F = Le • To outline the methods used to measure the standard electrode potentials of: -metals or non-metals in contact with their ions in aqueous solution • Calculate a standard cell potential by combining two standard electrode potentials • To outline the direction of redox reaction using the electrochemical cell value **<u>Organic conversions</u>** • To devise multi-stage synthetic routes for preparing organic molecules using the reactions in the syllabus **<u>Analytical Techniques</u>**	• Construct electrochemical cell consisting of a metal and its ion in aqueous solution • Calculate the Avogadro constant for the electrolysis of aqueous silver nitrate • Make a questionnaire (at least 10 questions) on calculating SEP using electrochemical cells. • Make a Powerpoint presentation on the history of electrochemical cell • Research and prepare a write-up on determining the feasibility of a reaction based upon the electrochemical cell value. • Using Mind maps prepare a summary of various reactions of each type of functional group. • Separation of the specific amino acids from a given mixture of them. • Calculate the areas of the triangular peaks to estimate the proportion of components in the mixture	• http://hyperphysics.phy-astr.gsu.edu/hbase/Chemical/electrochem.html • http://chem.libretexts.org/Core/Analytical_Chemistry/Electrochemistry/Basics_of_Electrochemistry/Electrochemical_Cells • https://www.chem.tamu.edu/class/fyp/stone/tutorialnotefiles/electro/nernst.htm • www.chemguide.co.uk http://www.rsc.org/learn-chemistry www.s-cool.co.uk • www.teachable.net • http://www.rsc.org/education

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	• To explain and use the terms Rf value in thin layer chromatography and retention time in gas/liquid chromatography from chromatograms. • To interpret gas/liquid chromatograms in terms of the percentage composition of a mixture. • To deduce the molecular mass of an organic molecule from the molecular ion peak in a mass spectrum. • To deduce the number of carbon atoms in a compound using the M+1 peak. • To deduce the presence of bromine and chlorine atoms in a compound using the M+2 peak. • To suggest the identity of molecules formed by simple fragmentation in a given mass spectrum. • To analyse a carbon-13 NMR spectrum of a simple molecule to deduce: (i) the different environments of the carbon atoms present (ii) the possible structures for the molecule	• Create a checklist of the order in which to make deductions from a mass spectrum. Make an infographic poster to explain M+1 and M+2 peaks and their significance • Practice analysing the NMR spectra of various molecules. • Work out the sub-atomic particles present in a deuterium atom. • Interpret the splitting pattern of D_2O. • Visit to see an NMR spectrometer in action and observe what sort of spectra it produces.	• http://alevelchem.com/aqa_a_level_chemistry/unit3.4/s3411/05.htm • http://www.docbrown.info/page04/4_71atomMSintro.htm • https://alevelnotes.com/notes/chemistry/elements-of-life/mass-spectrometry • http://alevelchem.com/ • http://www.rsc.org/learn-chemistry • www.s-cool.co.uk • www.teachable.net • http://www.rsc.org/education • http://www.rsc.org/learnchemistry/ • http://www.rsc.org/learnchemistry/

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	(iii) the different types of proton present using chemical shift values (iv) the relative numbers of each type of proton present from relative peak areas (v) the number of non-equivalent protons adjacent to a given proton from the splitting pattern, using the n + 1 rule • To predict the chemical shifts and splitting patterns of the protons in a given molecule		• www.teachable.net
Biology	**Genetic technology:** • To explain that genetic engineering is the deliberate manipulation of genetic material to modify specific characteristics of an organism. • To explain the roles of restriction endonucleases, DNA ligase, plasmids, DNA polymerase and reverse	• Schematically illustrate the steps involved in genetic engineering. • Create flash cards on importance of various enzymes and their sources used in gene tranfer. • Research in the databases that provide information about	• https://www.youtube.com/watch?v=R0UTROqFC8Q • https://www.youtube.com/watch?v=9fl4dcgE5EQ

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	transcriptase in the transfer of a gene into an organism. • To explain why a promoter may have to be transferred into an organism as well as the desired gene. • To explain how gene expression may be confirmed by the use of marker genes coding for fluorescent products. • To explain that gene editing is a form of genetic engineering involving the insertion, deletion or replacement of DNA at specific sites in the genome. • To describe and explain the steps involved in the polymerase chain reaction (PCR). • To describe and explain how gel electrophoresis is used to separate DNA fragments of different lengths. • To outline how microarrays are used in the analysis of genomes and in detecting mRNA in studies of gene expression.	nucleotide sequences of genes and genomes, and amino acid sequences of proteins and protein structures. • Diagrammatically explain the process of PCR and highlight its significance. Create a presentation on the process of gel electrophoresis and its significance along with microarrays in Biology.	• https://www.youtube.com/watch?v=B3Pn8cgReug • https://www.youtube.com/watch?v=9RljrdaOUUc • https://www.youtube.com/watch?v=Rd-ypr9c6Ok • https://www.youtube.com/watch?v=mN5IvS96wNk
Art and Design	Growing independence in the refinement and development of ideas and personal outcomes	Creativity, visual awareness, critical understanding an imaginative, creative and personal response.	**www.studentartguide.com**

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English	COMPARING AND CONTRASTING	Analyse the two articles and write a passage stating the differences and comparisons seen in the treatment of disabled people.	https://www.nationalgeographic.com/culture/article/paid-content-technology-is-opening-doors-for-southeast-asias-disabled https://www.cnbc.com/2021/10/29/people-with-disabilities-still-face-barriers-finding-work-during-the-pandemicheres-how-companies-can-help.html
Mathematics	**Pure Mathematics** **COMPLEX NUMBERS** • Carry out operations of addition, subtraction, multiplication and division of two complex numbers expressed in Cartesian form x + iy • Use the result that, for a polynomial equation with real coefficients, any non-real roots occur in conjugate pairs • Represent complex numbers geometrically by means of an Argand diagram • Carry out operations of multiplication and division of two complex numbers expressed in polar form $r(\cos\theta + \mathrm{i}\sin\theta) \equiv re^{i\theta}$	Research on the application of Complex numbers in • Electrical engineering - Fourier transforms are used in understanding oscillations that occur both in alternating current and in signals modulated by electromagnetic waves. • Quantum mechanics- A "particle" may be in a very well defined state (like an electron in atom), but still having no strictly defined coordinates. Not only that it's impossible to measure the coordinates - the "particle" just doesn't have them. Particle without coordinates is not actually a particle, it's something else.	**https://www.mathsisfun.com/numbers/complex-numbers.html** **https://www.khanacademy.org/math/algebra2/x2ec2f6f830c9fb89:complex/x2ec2f6f830c9fb89:imaginary/v/introduction-to-i-and-imaginary-numbers** **https://tutorial.math.lamar.edu/classes/alg/ComplexNumbers.aspx** **https://www2.clarku.edu/faculty/djoyce/complex/** **https://www2.clarku.edu/faculty/djoyce/complex/** **https://mathworld.wolfram.com/ArgandDiagram.html#:~:text=An%20Argand%20diagram%20is%20a,represents%20its%20complex%20argument.**

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	• Find the two square roots of a complex number **NUMERICAL SOLUTION** • locate approximately a root of an equation, by means of graphical considerations and/or searching for a sign change • Create simple iterative formula of the form $x_{n+1} = F(x_n)$ relates to the equation being solved, and use a given iteration, or an iteration based on a given rearrangement of an equation, to determine a root to a prescribed degree of accuracy. **VECTORS** • Use standard notations for vectors • carry out addition and subtraction of vectors and multiplication of a vector by a scalar, and interpret these operations in geometrical terms • Calculate the magnitude of a vector, and use unit vectors, displacement vectors and position vectors • Understand the significance of all the symbols used when the equation of a straight line is expressed in the form r = a + tb, and find the equation of a line, given sufficient information	• **Mass spectrometry** - finding out what materials are made of • **Image and movie compression** (e.g. jpg, mp3) allowing us to watch movies • **Equalisers** for music which can change the amount of bass or treble in your music • **Seismometers** that detect volcanoes Research on the application of numerical analysis in **1. Making Weather Predictions** Advanced computer simulations have made it possible to make weather predictions by computing numerical data from weather forecasting equipment such as weather satellites. This is done by making a mathematical model of a particular location and using computer based Numerical Analysis to obtain precise numerical values that are used for determining weather changes.	https://www.sciencedirect.com/topics/mathematics/argand-diagram https://www.mathscard.co.uk/online/numerical-methods/ https://www.youtube.com/watch?v=PwHIWoJsjoo https://www.mathsgenie.co.uk/c3-numerical-methods.html https://www.tes.com/teaching-resource/a-level-maths-numerical-methods-notes-and-worksheet-6146990 http://chubbyrevision-a2level.weebly.com/numerical-methods.html https://www.cuemath.com/algebra/dot-product/ https://www.mathsisfun.com/algebra/vectors-dot-product.html **https://www.ck12.org/calculus/vector-equation-of-a-line/lesson/Vector-Equation-of-a-Line-MAT-ALY/**

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	• Determine whether two lines are parallel, intersect or are skew, and find the point of intersection of two lines when it exists		
Statistics 1	**Topic: Normal Distribution and Permutation and Combinations** • Solve problems concerning a variable X, where $X \sim N(\mu, \sigma^2)$ • Recognise practical situations where the distribution is a suitable model. • Understand the terms permutation and combination, and solve simple problems involving selections • Solve problems about arrangements of objects in a line, including those involving repetition and restriction	Model a situation on normal distribution from a real-life situation. Summarise your learning and prepare notes on normal distribution with examples. Model a situation on permutation and combinations from real life situation. Prepare notes on how to distinguish between permutation and combination using real life situations.	https://revisionmaths.com/advanced-level-maths-revision/statistics/normal-distribution https://revisionmaths.com/advanced-level-maths-revision/statistics/permutations-and-combinations https://www.youtube.com/watch?v=2tuBREK_mgE https://www.youtube.com/watch?v=zQAmwgZgObk

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Mechanics1	• Evaluate probabilities with the calculations using permutation and combination **<u>Energy, Work and Power</u>** • analyze the concepts of gravitational potential energy and kinetic energy, and use appropriate formulae • understand and use the relationship between the change in energy of a system and the work done by the external forces, and use in appropriate cases the principle of conservation of energy use the definition of power as the rate at which a force does work, and use the relationship between power, force and velocity for a force acting in the direction of motion	Make notes on cases where the motion may not be linear, e.g. a child on a smooth curved 'slide', where only overall energy changes need to be considered. solve problems involving the instantaneous acceleration of a car moving on a hill against a resistance.	https://www.physicsclassroom.com/calcpad/energy https://revisionmaths.com/advanced-level-maths-revision/mechanics/work-energy-power https://alevelmaths.co.uk/mechanics/work-energy-and-power/

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Statistics 2	**Hypothesis Tests** • Understand the difference between one-tailed and two-tailed tests and the terms null hypothesis, alternative hypothesis, significance level, rejection region. • Formulate hypothesis and carry out a hypothesis test in the context of single observation from a population which has a binomial or poisson distribution. Calculate the probabilities of making type I and Type II error.	Research and summarise findings with examples on real life application on hypothesis testing. Make notes to summarise learning that includes formulae and solved examples.	https://stattrek.com/hypothesis-test/hypothesis-testing.aspx https://www.statisticssolutions.com/hypothesis-testing/ https://www.khanacademy.org/math/statistics-probability/significance-tests-one-sample/more-significance-testing-videos/v/hypothesis-testing-and-p-values

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Information Technology	Emerging Technology Role And Impact Of IT in Society Networks System Life Cycle Project Management	Encourage your child to revise all theory and practical topics and create notes based on the following topics Theory • Emerging Technology • Role And Impact Of IT in Society • Networks • System Life Cycle • Project Management Practical • Graphics Creation • Animation • Mail merge Programming For the web	http://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_2_software/122_applications_generation/swdevelopment/miniweb/index.php http://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/132_normalisation/miniweb/index.php http://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/133_protocol/miniweb/index.php
Computer Science	Pre-release material: Students will use the following concept to solve the pre-release material June 2021. o demonstrate an ability to solve a problem by writing appropriate facts and rules based on supplied information	Encourage your child to develop a software project to include the following using the scenario from pre-release material June 2021: Create a software database which can handle the files using Prolog concept.	**www.python.org** **Prolog:** **www.learnprolognow.org/lpnpage.php?pageid=implementations**

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	oo demonstrate an ability to write code that can satisfy a goal using facts and rules		**Tutorial guide to prolog:** **www.learnprolognow.org/lpnpage.php?pageid=online**
Psychology	Organisation and Psychology To evaluate the different assessment tools used by organisations to measure job satisfaction	Research on all the psychometric tests used to gauge job satisfaction and prepare a power point to describe each assessment tool supported by real life examples. Include an evaluation for each measure.	www.tes.co.uk www.simplypsychology.com
Sociology	Globalisation To evaluate the Marxist and Feminist perspectives on who benefits from global crime.	Research on the reasons for the emergence of global crime. Include the different sociological perspectives with special reference to Marxism and Feminism. Create a google doc to add the points of discussion in your report. Share the link with your peers.	www.sociology.org.uk

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History	• To research on how important were the personalities of the leaders of the Great Powers in shaping the Cold War?	• Watch all parts of Isaacs' *Cold War.* These differences can be collated and classified: which are points of detail, which are points of argument (i.e. interpretative points, but not sufficient in themselves to identify the historian's overall interpretation), and finally the essential difference in the interpretation as a whole. • Practice writing essay type of questions from the topic given from the past papers	https://www.youtube.com/watch?v=GQbZSNS2mgY
Global perspectives	• Research Report	For your chosen report topic, you have already completed your research using the methods and methodology you indicated in your research log. You will write the 5000 words report to be submitted by the end of February. • Read the samples provided again. • Update the research log with all dates, tasks and evaluation. • The report should contain: -Well developed introduction of the issue and perspectives and your intended approach	Suitable research sources chosen by the learner.

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		-analysis of various perspectives, using the sources to justify the arguments. -reflection and conclusion -citation consistent with your research log.	