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Subject	Focus	Activities	Useful website
Accounting	• To develop independent problem-solving skills • To get familiarize with the A level topics	• Revise all the topics covered so far in the A level syllabus. • Revise the topic of budgeting and practice questions on the same. • Practice question from past paper 2016 – 2020 (Feb/March and May/June series) ➢	www.myaccountinglab.comwww.cie.org.uk, Accounting Text books
Arabic	**TOPIC:** • **مقال أي الناس أسعد** • **قصة ما لن يأتي عبر النافذة** • **نحو الاستثناء** • **بلاغة الكناية** • **كتابة قصة قصيرة** **Learning objectives:** **أن يحلل الطالب المقال تحليلًا فنيًا** **أن ينقد الأدلة التي ساقها الكاتب في المقال** **•أن يحلل مظاهر السعادة من وجهة نظره، ومن وجهة نظر الكاتب** **•أن يحلل دور العناصر الفنية في تصاعد الأحداث** **•أن يكتب نهاية مختلفة** **•أن يضيف تقنية جديدة ويعيد سرد**	• تحليل المقال من حيث الأدلة التي ساقها الكاتب • نقد الأدلة وإضافة أدلة جديدة من رأي الطالب • مقارنة المقال بمقال من جريدة مصرية وجريدة الاتحاد • تحليل التشويق في القصة • رسم خط تصاعد الأحداث في القصة • يضيف نهاية مختلفة بتقنية المفارقة • يشرح الرمز ودلالته في القصة • استنباط الفكرة وراء القصة • إعراب المستثنى في حالاته الثلاثة • تحليل شواهد الاستثناء من القرآن والشعر • استنباط بلاغة الكناية ودورها في المعنى • شواهد الكناية المعاصرة والكنايات القديمة	https://www.albayan.ae/opinions/articles/2015-10-24-1.2488159 https://www.youtube.com/watch?v=ackUHbLah2I https://www.youtube.com/watch?v=B4qCo9iBb-s https://www.annajah.net/%D9%85%D9%81%D9%87%D9%88%D9%85-%D8%A7%D9%84%D8%B3%D8%B9%D8%A7%D8%AF%D8%A9-%D9%88%D8%B7%D8%B1%D9%82-%D8%A7%D9%84%D9%88%D8%B5%D9%88%D9%84-%D9%84%D9%87%D8%A7-article-25197 https://www.youtube.com/watch?v=OoeGWoQkWuo https://www.youtube.com/watch?v=_nLrhqarluo

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Islamic Studies Arabs	TOPIC: السنن الربانية **Learning objectives:** **أن يوضح مفهوم السنن الكونية مستدلا عليها من القرآن الكريم والسنة النبوية** TOPIC:المسؤولية في الإسلام أن يميز بين المسؤولية الفردية والجماعية في الإسلام	البحث عن السنن الإلهية في الكون والحياة والإنسان الاستدلال على السنن الكونية من القرآن الكريم والسنة النبوية البحث عن مجالات المسؤولية الفردية والجماعية الاستدلال على التكليف والمسؤولية من القرآن الكريم والسنة النبوية	https://www.youtube.com/watch?v=h8659acwy5g
Islamic Studies Non Arabs	TOPIC: THE SLANDER AGAINST AYESHA (RA) AND MORAL LESSON.	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=mifYB3oZFbs https://www.youtube.com/watch?v=HreJejiqAlc&t=896s

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	Learning objectives: To appreciate the magnificient character of Ayesha(RA) -To comprehend the consequences of rumors on individual and society TOPIC; SOCIAL INTERACTION- GOOD CONDUCT & MANNERS Learning objectives: **-To learn the etiquettes of communicating** **- To highlight the responsibility of social media** **To evaluate the consequences of wrong use of social media.**	RECORD a video on the preventive measures one should take in order to save himself/ herself from the wrong use of social media. GIVE SOME SUGGESTIONS TO PREVENT YOUNG CHILDREN FROM USING SOCIAL MEDIA IN A WRONG MANNER.	

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Biology	**PHOTOSYNTHESIS:** • To Elucidate the three steps of Light dependent reaction and signify it over light independent reaction. • To justify the independence of Light independent reaction with emphasis on the steps involved. • To elaborate the adaptations of CAM plants/the biochemistry of C4 **Coordination:** • Compare the nervous and endocrine systems as communication systems, that co-ordinate responses to changes in the internal and external environment. • Explain the importance of the myelin sheath (saltatory conduction) in determining the speed of nerve impulses and the refractory period. • Explain the sliding filament model of muscular contraction including the roles of troponin,	• Schematically illustrate the purpose of photosynthesis and transfer of energy from light to complex organic molecules. • Interpret graphs showing the effects of limiting factors. • Draw a labelled diagram of a palisade cell and a chloroplast and write a summary of how they are adapted for photosynthesis.5. .Produce an annotated diagram of the light-dependent stage. • Add bullet points to build understanding of photolysis, photosystems, chain of electron carriers / ATP production and reduction of NADP. • Investigate the effect of light intensity and light wavelength on the Hill reaction, using a very simple protocol. • Give a brief outline of the main types of photosynthetic pigments, distinguishing between primary and accessory pigments. • Sketch out absorption and action spectra, explaining the similarities and differences between the two.	• http://www.biologymad.com/ • http://faculty.uca.edu/johnc/Chloroplast_and_microbodies.jpg • http://www.teachnet.ie/foneill/cyclic.html • http://www.saps.plantsci.cam.ac.uk/worksheets/ssheets/ssheet10.htm • http://www.wiley.com/college/boyer/0470003790/animations/photosynthesis/photosynthesis.htm

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	tropomyosin, calcium ions and ATP • Explain the roles of the hormones FSH, LH, oestrogen and progesterone in controlling changes in the ovary and uterus during the human menstrual cycle • Describe the role of gibberellin in the germination of wheat or barley	1. Make a model of Axon with post and pre synaptic endings and Label it correctly. 2. Make a flow diagram to explain the Nervous system. 3. Prepare a presentation on the saltatory movement of nerve impulse. 4. Create a 10 quiz questions on the role of hormone in human body coordination.	http://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookNERV.html https://www.youtube.com/watch?v=e3Nq-P1ww5E https://www.youtube.com/watch?v=HYLyhXRp298, https://www.youtube.com/watch?v=L41TYxYUqqs
Business Studies	**Topic: Marketing analysis** ▪ To measure and interpret the elasticity of demand -price, income, and promotional ▪ To evaluate the impact of elasticity results on business decisions	Research and discuss how elasticity data can help a business make decisions and the likely impact of these decisions on the business. • Present your findings in the form of a Report. Use real-world examples.	www.youtube.com/watch?v=1XXhpHJTglg – video introducing elasticity as a concept. www.youtube.com/watch?v=pyuOcDjul8s– video about the usefulness of elasticity data
Chemistry	**<u>Analytical Techniques</u>** • To explain and use the terms Rf value in thin layer chromatography and retention time in gas/liquid chromatography from chromatograms.	• 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.	• http://alevelchem.com/aqa_a_level_chemistry/unit3.4/s3411/05.htm • http://www.docbrown.info/page04/4_71atomMSintro.htm

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	• To interpret gas/liquid chromatograms in terms of the percentage composition of a mixture. • To analyze the H-NMR spectrum of simple molecule in High as well as low resolution. • To analyze 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 (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 **Chemical Energetics (Entropy & Gibbs Free Energy)** • To predict and justify the sign of entropy changes • To measure the entropy changes for a reaction using the standard entropy values	• Calculate the areas of the triangular peaks to estimate the proportion of components in the mixture • Practice analysing the NMR spectra of various molecules. • Work out the sub-atomic particles present in a deuterium atom. • Interpret the splitting pattern of D2O. • Visit to see an NMR spectrometer in action and observe what sort of spectra it produces.	• 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/ • www.teachable.net http://study.com/academy/lesson/the-relationship-between-enthalpy-h-free-energy-g-and-entropy-s.html https://chemed.chem.purdue.edu/genchem/topicreview/bp/ch21/gibbs.php https://byjus.com/questions/how-is-gibbs-free-energy-related-to-enthalpy-and-entropy/

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	• To suggest the feasibility of a reaction using Gibbs free energy • To explain the effect of temperature on the spontaneity of a reaction **<u>Electrochemistry:</u>** • To determine the mathematical relationship F = Le and use it in calculations • To outline the working of Standard Hydrogen Electrode (SHE) • To summarise the methods used to measure the standard electrode potentials of: -metals or non-metals in contact with their ions in aqueous solution • To apply the Nernst equation to predict quantitatively how the value of an electrode potential varies with the concentration of the aqueous ion. • To outline the direction of redox reaction using the electrochemical cell value • To understand and use the equation $\Delta G^{\ominus} = -nE^{\ominus}_{cell}F$	• Compare the entropy changes for various states of matter to justify the relationship between entropy and the number of microstates • Prepare a power-point presentation on the significance of Gibbs free energy • Calculate entropy changes using standard entropy values and relate Gibbs free energy to entropy and enthalpy • Research and write an article on the effect of temperature on feasibility of a reaction. • Solve at least five questions making use of F = Le to predict the identity of the products formed during electrolysis • Construct electrochemical cell using Standard Hydrogen Electrode as one of the half cell • Research and prepare a write-up on determining the feasibility of a reaction based upon the electrochemical cell value	https://www.chemguide.co.uk/inorganic/electrolysis/basiccalcs.html https://byjus.com/chemistry/standard-hydrogen-electrode/ http://www.dynamicscience.com.au/tester/solutions1/chemistry/redox/electrochemicalcellfromequan.htm https://chem.libretexts.org/Bookshelves/Introductory_Chemistry/Book%3A_Introductory_Chemistry_(CK-12)/23%3A_Electrochemistry/23.06%3A_Calculating_Standard_Cell_Potentials https://www.chem.tamu.edu/class/fyp/stone/tutorialnotefiles/electro/nernst.htm http://www.docbrown.info/page01/ExIndChem/electrochemistry11.htm

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		• Plan an investigation to be conducted in a school laboratory to determine the cell potential under non-standard conditions (use Nernst equation) • Prepare a Power-Point presentation on electrochemical cell value and feasibility of a reaction • Practice interrelating standard Gibbs free change with the electrochemical cell value	
Economics	• To consolidate all the level Topics covered so far • To develop independent researching and analytical skills	• Revise the A level syllabus topics covered for the Pre-Mocks. • 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

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Mathematics Statistics 2	**<u>Continuous random variables</u>** • use a probability density function to solve problems involving probabilities, and to calculate the mean and variance of a distribution. **<u>Sampling</u>** • understand the distinction between a sample and a population, and appreciate the necessity for randomness in choosing samples • explain in simple terms why a given sampling method may be unsatisfactory	Research and summarise findings with examples on real life application of a probability density function. Make notes to summarise learning that includes formulae and solved examples. Compare and contrast : population and sample.	https://revisionmaths.com/advanced-level-maths-revision/statistics/continuous-random-variables Continuous Random Variables: Mean & Variance - YouTube https://revisionmaths.com/advanced-level-maths-revision/statistics/sampling
Mathematics Pure math	• Use the derivatives of e^x, ln x, sinx, cos x, tanx, $\tan^{-1} x$, together with constant multiples, sums, differences and composites • Differentiate products and quotients	Research on the application of differentiation in Architecture: An Architect Engineer uses integration in determining the amount of the necessary materials to construct curved shape constructions. Application in Medical Science: Biologists use differential calculus to determine the exact rate of growth in a bacterial culture when different variables such as temperature and food source are changed.	**https://pastpapers.papacambridge.com/viewer/caie/as-and-a-level-mathematics-9709-topical-questions-with-answers-paper-2-algebra-pdf-paper-2-answers-all-topics-pdf-paper-2-differentiation-pdf** **https://www.savemyexams.com/a-level/maths_pure-3/cie/20/topic-questions/4-differentiation/4-1-further-differentiation** **https://www.youtube.com/watch?v=vo4njFwsaZ8**

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		Application in Graphics: It is used to determine the rate of a chemical reaction and to determine some necessary information of Radioactive decay reaction.	https://www.youtube.com/watch?v=GIn83V264Bo
Mathematics Applied Math	• Apply the principle that, when a particle is in equilibrium, the vector sum of the forces acting is zero, or equivalently, that the sum of the components in any direction is zero • Understand that a contact force between two surfaces can be represented by two components, the normal component and the frictional component • Use the model of a 'smooth' contact, and understand the limitations of this model • Apply the concepts of limiting friction and limiting equilibrium, recall the definition of coefficient of friction, and use the relationship F = μR or F ≤μR as appropriate	Research on the real life applications of Newton law Rocket propulsion : The exhaust from the rocket pushes the ground and the ground pushes the rocket with equal and opposite force to cause the latter to move forward. If the third law of motion never existed, we would never have made it into the space! Forces in equilibrium : civil engineer while designing the bridge have to ensure that bridge is strong enough and sturdy to support pedestrians or vehicles using the bridge	**https://www.savemyexams.com/a-level/physics/cie/19/revision-notes/5-forces-density--pressure/5-2-forces-equilibrium-density--pressure/5-2-1-equilibrium-of-forces/https://www.scribd.com/document/522704796/9709-Teaching-Pack-4-1-ForcesAndEquilibriium-v1https://www.physicsandmathstutor.com/a-level-maths-papers/m1-by-topic/https://www.youtube.com/watch?v=bbJvjnx5G_M**

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Psychology	• Clinical Psychology: - • Assess the different explanations of mood disorder. • Health Psychology: - Assess the role of Adherence to medical advice • Consumer behaviour: - Assess how lighting, colour and smell can affect a consumer's behaviour. • Organisational behavior: - Assess the different motivators at work place.	Create a tool that would allow doctors to try and diagnose unipolar and bipolar depression effectively, justifying what questions they would ask.	www.ismanet.org/doctoryourspirit/pdfs/Beck- Depression-Inventory-BDI.pdf Oruc et al (1997) available at www.researchgate.net/profile/Christine-Van-Broeckhoven/publication/13886590_Association_analysis_of_the_5-HT2C_receptor_and_5-HT_transporter_genes_in_bipolar_disorder/links/5ab0d2d6a6fdcc1bc0be73fd/Association-analysis-of- the-5-HT2C-receptor-and-5-HT-transporter-genes-in-bipolar-disorder.pdf
Art & Design	AO1 and AO2 learners to explore and build on their subject of interest. To encourage independent expression and the development of a critical, reflective practice. To accommodate a wide range of abilities, materials and resources, and allow the different skills to be fully exploited critically.	Communication: purposeful trials of art works to communicate, from the simplest sketch to the most complex work. The need to understand the relationship about the chosen subject and the works that will build on critical and purposeful influences transformed into original outcome.	www.studentartguide.com

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Physics	**Capacitance** • Analyse graphs of the variation with time of potential difference, charge and current for a capacitor discharging through a resistor • recall and use $\tau = RC$ for the time constant for a capacitor discharging through a resistor **Ideal Gases** • Solve problems using the equation of state for an ideal gas • Interpret Brownian motion in terms of the movement of molecules • State the assumptions of the kinetic theory of gases • Deduce a relationship between pressure, volume and the microscopic properties of the molecules of a gas • relate the kinetic energy of the molecules of a gas to its temperature	• Sketch Voltage-time, Current-time and Charge-time graphs for charging and discharging of a capacity. • State and explain in terms of the kinetic model • Examine what happens to the pressure inside a tyre when more molecules at the same temperature are pumped into the tyre • Explain Boyle's law and applications • State the ideal gas equation and explain kinetic model • State the relation between temperature and molecular kinetic theory	• https://www.savemyexams.co.uk/a-level/physics/aqa/17/revision-notes/7-fields--their-consequences/7-7-capacitor-charge--discharge/7-7-1-charge--discharge-graphs/ • https://www.scienceandmathsrevision.co.uk/topic/charging-and-discharging-capacitors/ • http://physicsnet.co.uk/a-level-physics-as-a2/thermal-physics/thermal-energy/ • https://www.youtube.com/watch?v=ZwXtPW0gdD0 • http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/firlaw.html • http://www.physics.usyd.edu.au/super/life_sciences/TP/TP-rev-questions.pdf

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English Language	• *Analyse how language has changed over time.*	*Take an extract from Hard Times written by Charles Dickens.* Analyse the grapholgy, grammar, semantics and lexis in the given extract. Also comapre all three with modern language and evaluate hpw lanuage has changed.	teachingenglish.org.uk/sites/teacheng/files/Dickens_Hard_Times_extract
Information Technology	• Prgramming the web • Detecting events , Loops • Graphics • IT in society	• Encourage your child to practise past papers and focus on java script and animation tools . • Edit images and animate objects using image editing tools	www.teach-ict.com
Computer Science	Object-oriented programming (OOP) o demonstrate an ability to solve a problem by designing appropriate classes o demonstrate an ability to write code that demonstrates the use of classes, inheritance, polymorphism and containment (aggregation)	Encourage your child to develop a software project to include the following: Create a database which can handle the files using OOPS concept.	OOP programming with Python: www.codecademy.com/courses/python-intermediate-en-WL8e4?curriculum_id=4f89dab3d788890003000096 Object diagram notes: http://en.wikipedia.org/wiki/Object_diagram