

The Royal Academy of Engineering

This Booklet contains Summary of Resources available on Internet for Teachers in Schools and Colleges who will be delivering
Level 3: Diploma in Engineering

Two Weeks Report: 14th January 2008 – 28th January 2008

Sapna Somani

Maths Coordinator, 14-19 Diploma in Engineering

Internet Resources for Teachers

1	Resource	http://nrich.maths.org/public/index.php
	Explanation	Enriching Learning Mathematics Website, Copyrights: University of Cambridge
	Topics Covered	Mainly deals with Mathematics Problems, Puzzles, and Games.
	Views/Comment	The website is divided in four parts: Primary, Lower Secondary, Higher Secondary and Post-16. Contains curriculum mapping. No hard-core topic based Maths. Being updated every month with new stuff. In short, a Mathematics Monthly Magazine
	Access Status	Free to all
2	Resource	http://www.emaths.co.uk/about.htm
	Explanation	Emaths: Sharing Best Practice in Mathematics Education
	Topics Covered	KS1, KS2, KS3, KS4
	Views/Comment	A very good website for teachers and students both. Lots of resources to read about Maths including SATs papers of last 6 years. Mainly Word, PDF and PPT files. Give Links to most of the Maths Websites discussed in this file and many more.
	Access Status	Free to all
3	Resource	http://en.wikipedia.org/wiki/Portal:Mathematics
	Explanation	Wikipedia Website for Mathematics Information and Definitions
	Topics Covered	Almost everything you need to understand a topic, lower to higher level.
	Views/Comment	Very Common website.
	Access Status	Free to all

4	Resource	http://www.sitesforteachers.com/index.html
	Explanation	Sites for Teachers: Hundreds of free educational websites rated by popularity
	Topics Covered	Resources for all subjects and all levels
	Views/Comment	Can be used as a handy website to find a quick homework or classwork.
	Access Status	Free to all
5	Resource	http://www.purecoder.net/mathsguru/powerpoint.htm
	Explanation	Resources for Teachers and Students
	Topics Covered	KS3 and/or GCSE Mathematics
	Views/Comment	This contains several PPT files that explain few topics of KS3/KS4 mathematics.
	Access Status	Free to all
6	Resource	http://www.digitalbrain.com/digitalbrain/web/subjects/2.%20secondary/ks4mat/?verb=view
	Explanation	Digital Brain Education Services Website
	Topics Covered	KS4 Maths: Number; Using Mathematics; Algebra; Shape, Space and Measures; Handling Data
	Views/Comment	Covers KS4 Mathematics in a bit detail. Includes many solved examples. Each core-topic link opens in a separate window. Quality of examples covers Foundation and Intermediate Level with few of Higher Level. Each topic is followed by unsolved exercises with answers at the end. Not very practical approach.
	Access Status	Free to all
7	Resource	http://www.coursework.info/
	Explanation	Coursework Information Website
	Topics Covered	Essays, Projects, Coursework for GCSE, A Levels and University Level, All Subjects
	Views/Comment	Good website to look through the coursework, essays and projects in details.
	Access Status	Paid Website. Needs Registration. Annual Fee: £37.50 / Monthly Fee: £4.99

8	Resource	http://www.mei.org.uk/
	Explanation	Mathematics in Education and Industry, Chief Executive: Roger Porkess
	Topics Covered	GCSE and A Level Mathematics, Past Papers
	Views/Comment	Very Sophisticated website with lots of information. Offers books, teaching materials, software, and past-papers. Mainly deals with OCR. Some past papers are free from revision. Sample online resource is given on http://www.resources.mei.org.uk/sample/algebraII.htm
	Access Status	Website access is free, but need to pay for any of the above resource from them.
9	Resource	http://www.revisioncentre.co.uk/index.html
	Explanation	Revision Centre Website
	Topics Covered	All GCSE subjects including Mathematics and Science
	Views/Comment	Give an explanation about almost all the topics of GCSE maths. Not very appealing in terms of contents. Good for beginners.
	Access Status	Free to all
10	Resource	http://www.cems.uwe.ac.uk/~kgolden/HELM/HELM%20Sept%2005%20(D)/pages/helm_workbooks_sep2005.html
	Explanation	Helping Engineers Learn Mathematics (HELM) Worksheets
	Topics Covered	All topics of KS4 and higher.
	Views/Comment	Very Nice website, gives all the documents as PDF, contains almost all the topics for KS4 and higher, with solved and unsolved examples. Excellent for teachers to refer.
	Access Status	Free to all
11	Resource	http://www.mathcentre.ac.uk/students.php/mathematics
	Explanation	Mathematics Education Centre, University of Loughborough
	Topics Covered	Not exactly.
	Views/Comment	Good for teachers to refer time-to-time. Some links to external websites are given and those are quite useful.
	Access Status	Free to all

12	Resource	http://www.tech.plym.ac.uk/maths/resources/PDFLaTex/mathaid.html
	Explanation	School of Mathematics and Statistics, University of Plymouth
	Topics Covered	Mainly GCSE Mathematics with a possibility of some A level Maths topics
	Views/Comment	Good as all the resources are in PDF format, easy to read and download, lots of solved examples included.
	Access Status	Free to all
13	Resource	http://www.wisc-online.com/objects/index_tj.asp?objID=MSR3603
	Explanation	Practical Trigonometry
	Topics Covered	Trigonometry for GCSE and A levels
	Views/Comment	A Slide show containing basic concepts and explanation about the trigonometry.
	Access Status	Free to all
14	Resource	http://lgfl.skool.co.uk/keystage4.aspx?id=317
	Explanation	Learning and Teaching Technology, Skool.co.uk
	Topics Covered	KS4-Maths: Algebra, Shape, Space, Measure; KS4-Science
	Views/Comment	This website is also connected through LGfL website. All the topics are in terms of audio visual PowerPoint presentations. Very clear and concise. Easy to understand for a beginner as well.
	Access Status	Free to all
15	Resource	http://mathforum.org/dr.math/
	Explanation	The Maths Forum @ Drexel, USA
	Topics Covered	Basic Maths equivalent to GCSE and A Level
	Views/Comment	The website is very vast and includes almost all the topics with good explanation. Multi-layer navigation. Not very friendly language and symbols (may be because of American Website).
	Access Status	Free to all

16	Resource	http://www.yourmathstutor.info/forum/index.php?board=4.0
	Explanation	Your Maths Tutor: Maths Forum for GCSE, A and AS level Mathematics and Physics
	Topics Covered	Only question-answers related to GCSE, A and AS level Mathematics and Physics
	Views/Comment	A good website to see some enhanced explanation for topics in GCSE, A and AS level Mathematics and Physics, topics with which almost all students struggle, friendly to students, teachers may also find it useful. Teacher can also get help with any topic if they found difficult to teach.
	Access Status	Free to all
17	Resource	http://www.what2learn.com/games/maths/
	Explanation	What2Learn website for Mathematics
	Topics Covered	Maths and Science for KS3 and KS4 (with other subjects as well)
	Views/Comment	It offers you several games related to KS3 and KS4 mathematics & science. You need to register as a student or as a teacher for playing any game. You can save and print your score once you are registered. For registration, you need to send your school details to the mentioned email address. Its free.
	Access Status	Free to all
18	Resource	http://www.mysciencesite.com/links_1.html
	Explanation	Maths Links: contains Lesson and Tutorial type sites and Interactive Lessons and Games type sites.
	Topics Covered	GCSE and A level mathematics
	Views/Comment	Excellent website to give access to several good websites including some mentioned in this document as well.
	Access Status	Free to all
19	Resource	http://www.examsolutions.co.uk/
	Explanation	Exam Solutions, Maths Revision made easy
	Topics Covered	Maths exam papers & Tutorials, Maths Books, Maths Forum and Maths Tuition links, GCSE and A level mathematics
	Views/Comment	Good website for students to do some revision for Maths, some part is free. Some tips are also given for those teachers who are responsible to set the exam papers.
	Access Status	Access is free but you need to pay when you wish to download something of your interest. However, some samples are free to download.

20	Resource	http://cte.jhu.edu/techacademy/web/2000/heal/mathsites.htm
	Explanation	Cool Maths Sites
	Topics Covered	GCSE Mathematics and Higher
	Views/Comment	It gives link to several other mathematics websites. It explains almost all the topics the topics of GCSE Mathematics and higher. Each link opens in a new window giving more flexibility to understand any topic. Some links are animated as well to give better grasp of the content described.
	Access Status	Free to all
21	Resource	http://www.purecoder.net/mathsguru/coursework.htm
	Explanation	Resources for Students and Teachers: Coursework
	Topics Covered	GCSE Mathematics: DATA only
	Views/Comment	Easy to download files of coursework. Useful for both, students and teachers.
	Access Status	Free to all
22	Resource	Absorb Maths / Absorb Physics / Absorb Chemistry
	Explanation	Software available on LGfL website.
	Topics Covered	KS4 Maths, Physics and Chemistry
	Views/Comment	This is available to only London Teachers who have username and password to access the LGfL website. This site also contains all other subjects available to KS1, KS2, KS3 and KS4.
	Access Status	Restricted for public use.
23	Resource	http://www.fmnetwork.org.uk/index.php
	Explanation	The Further Mathematics Network
	Topics Covered	A level and Further Mathematics (Paid access)
	Views/Comment	Very good website and giving links to almost all the other websites given in this document. Gives all the latest news. Good for teachers and students both in terms of information provided. It is managed by MEI and funded by DCSF.
	Access Status	Free to all

24	Resource	http://www.m-a.org.uk/association/organisation/committees/teaching_committee/subcommittees/post16_subcommittee_resources/index.html
	Explanation	The Mathematical Association, Supporting Mathematics in Education
	Topics Covered	Post-16 Mathematics topics including some papers, Only AQA
	Views/Comment	All the files are in Word Format, easy to download. Good for higher level students.
	Access Status	Free to all
25	Resource	http://www4.ncsu.edu/unity/lockers/users/f/felder/public/kenny/home.html#MATH
	Explanation	Maths and Physics Help Home Page (USA website)
	Topics Covered	Basic Maths and Physics (May be a revision before A Level studies)
	Views/Comment	The site is very good in terms of contents, but it is an American Website. Some other useful external links are also given on the next webpage given below as the next item in the table
	Access Status	Free to all
26	Resource	http://www4.ncsu.edu/unity/lockers/users/f/felder/public/kenny/edulinks.html
	Explanation	Educational Websites for Maths and Physics (USA Website)
	Topics Covered	Basic Maths and Physics (May be a revision before A Level studies)
	Views/Comment	Give access to several web pages that may be useful for teachers and students both for Maths and Physics.
	Access Status	Free to all
27	Resource	http://www.hvks.com/Numerical/webintegration.htm
	Explanation	Numerical Methods: Numerical Web Integration
	Topics Covered	Numerical Integration web applet (A Level Maths)
	Views/Comment	It gives the solution to almost any type of integration using different numerical methods. Covers A levels and foundation year diploma mathematics. It also gives access to some higher mathematics topics like solving cubic splines and polynomial interpolation, financial calculator, etc.
	Access Status	Free to all

28	Resource	http://www.sigma-cetl.ac.uk/index.php?section=1
	Explanation	Centre for Excellence in Mathematics & Statistics Support.
	Topics Covered	Some of the resources related to A level Maths
	Views/Comment	Give access to the students for University of Loughborough and University of Coventry separately if registered. Also gives access to any student to mathcentre website and mathtutor website mentioned above in this document.
	Access Status	Last section is free to all. First two links are only for registered students.
29	Resource	http://www.mathedup.co.uk/Key_stage_5_resources.htm
	Explanation	Key Stage 5 Mathematics Resources
	Topics Covered	KS5 Mathematics Core 1, Core 2, Core 3, Core 4, Statistics 1, Mechanics 1
	Views/Comment	These resources given on this website relate to the AQA spec . There are some textbook references which refer to Cambridge University Press SMP textbooks. All the topics are given in terms of PPT slides. There are some Exam Papers given in PDF files. Also contains some interactive lessons web pages but two software (EasiTeach & Tarsia) are required to run those web pages. Software is available to download for free but will only allow you to explore the pages and not to modify them. You need to buy the software in order to modify the files. Give access to several useful links.
	Access Status	Free to all
30	Resource	http://metric.ma.imperial.ac.uk/new/html/index.html
	Explanation	Metric: Imperial College London
	Topics Covered	A Level Mathematics, Edexcel Exam Board
	Views/Comment	Covers every topic of A Level Mathematics. All the topics are explained in brief but easy to understand. Each topic should be opened in a different web page for better understanding. Internal and external links are also given. Good for teachers as well.
	Access Status	Free to all
31	Resource	http://www.engsc.ac.uk/er/engmath/index.asp#
	Explanation	The Higher Education Academy: Engineering Subject Centre
	Topics Covered	No direct topics of Mathematics, but an introduction to the teaching of Mathematics in Engineering.
	Views/Comment	Good for teachers responsible for teaching Mathematics in Engineering. Redirect to SIGMA website.
	Access Status	Free to all

32	Resource	http://www.engsc.ac.uk/downloads/Brush_up_your_maths3.doc#chapterone
	Explanation	Brushing up your Maths, An access course for H. E. Engineering by Dr. D. Baxter of Mid Cheshire College
	Topics Covered	Rearranging Equations, Solving problems using Graphs, Complex Numbers and Vectors, Matrices and Determinants, Maths on the move: Calculus
	Views/Comment	Very nice web-page, all the above topics explained in details; lots of solved and unsolved examples. Mathematics of A level, mostly applied examples.
	Access Status	Free to all
33	Resource	http://www.m-a.org.uk/association/organisation/committees/teaching_committee/subcommittees/post16_subcommittee_resources/index.html
	Explanation	The Mathematical Association, Supporting Mathematics in Education
	Topics Covered	Post-16 Mathematics topics including some papers, Only AQA
	Views/Comment	All the files are in Word Format, easy to download. Good for higher level students.
	Access Status	Free to all
34	Resource	http://www.kutasoftware.com/free.html
	Explanation	A software to generate Test and Worksheets for Algebra with answers (USA software)
	Topics Covered	Infinite Algebra 1, Infinite Algebra 2, Pre-Algebra (Equivalent to KS4 and higher level Algebra)
	Views/Comment	Generates worksheets for each and every topic in Algebra with answers at the end as a PDF file.
	Access Status	Few topics are free, but you need to pay for the whole software in terms of CDs. Single-user License for two CDs is \$179.00
35	Resource	http://www.teachingtreasures.com.au/maths/Maths_more.html
	Explanation	Teaching Treasures: Online – Interactive Mathematics
	Topics Covered	KS1/KS2/KS3 Partially KS4 Mathematics
	Views/Comment	It contains some web pages that can be introduced to a student to solve few examples online. It also check answers online. Only few topics for Year 10 are covered.
	Access Status	Free to all

36	Resource	http://www.ncetm.org.uk/
	Explanation	National Centre for Excellence in the Teaching of Mathematics
	Topics Covered	Self Development
	Views/Comment	Very useful website for the teachers to know about the current development in the field of Mathematics in HE/FE. Every teacher involved in teaching Mathematics at any level should explore this website.
	Access Status	Free to all
37	Resource	http://phase4preview.bdpmedia.com/maths/default.htm
	Explanation	QIA (Quality Improvement Agency): National Teaching and Learning Change Programme: Learning Mathematics in Context
	Topics Covered	CPD Techniques for teachers
	Views/Comment	Good for teachers involved in teaching Mathematics at HE/FE or those who work with Adult Learners.
	Access Status	Free to all
38	Resource	http://www.ifl.ac.uk/services/p_wvv_page?id=140
	Explanation	Institute for Learning
	Topics Covered	General
	Views/Comment	A very useful website for the teachers involved in HE/FE for self development.
	Access Status	Free to all
39	Resource	http://excellence.qia.org.uk/
	Explanation	QIA: Excellence Gateways
	Topics Covered	General for Teachers
	Views/Comment	For current development in education.
	Access Status	Free to all
40	Resource	http://yp.direct.gov.uk/diplomas/
	Explanation	The Diploma Website by DirectGov.
	Topics Covered	General reading material for Teachers those who are involved in teaching of Diplomas from September 2008.
	Views/Comment	For current developments in diploma education.
	Access Status	Free to all

41	Resource	http://www.engineeringdiploma.com/
	Explanation	14-19 Engineering Diploma
	Topics Covered	General reading material for Teachers those who are only involved in teaching of Engineering Diploma from September 2008.
	Views/Comment	For current developments in engineering diploma education.
	Access Status	Free to all
42	Resource	http://www.ncsl.org.uk/14-19/
	Explanation	Supporting Leaders in 14-19 Curriculum Reforms
	Topics Covered	General reading material for Teachers those who are only involved in teaching of 14-19 year olds.
	Views/Comment	For current development in 14-19 education.
	Access Status	Free to all
43	Resource	http://www.diploma-support.com/index.html
	Explanation	14-19 Education Support Skills: Diploma Support Programme
	Topics Covered	Very good website for all those staff members who are working in the consortia for the success of Diplomas
	Views/Comment	For current development in diploma education.
	Access Status	Free to all
43	Resource	http://www.webmath.com/
	Explanation	Webmath.com
	Topics Covered	General Mathematics
	Views/Comment	Very good website for solving several maths problems. It contains applet-designed for almost all the topics in GCSE/A level
	Access Status	Free
44	Resource	www.geogebra.org
	Explanation	Dynamic Mathematics for Schools
	Topics Covered	General Mathematics
	Views/Comment	Free, Open-source dynamic mathematics software joining geometry, algebra, and calculus.
	Access Status	Free

45	Resource	www.curriculum.qca.org.uk
	Explanation	Qualification and Curriculum Authority
	Topics Covered	Information about the latest curriculum
	Views/Comment	This website is useful for teachers, head teachers, senior managers, local authorities, etc. This gives the latest information about the UK curriculum and also contains proper guidance and case-studies for teachers.
	Access Status	Free

