



CLUSTER INNOVATION CENTRE (CIC)

3rd Floor, Rugby Sevens Building, University Stadium,
UNIVERSITY OF DELHI, Tel. No.-27666702

List of E-resources/ Study material for the reference of students

B. Tech. (Information Technology and Mathematical Innovations)

Following are the recommendations of some additional e-resources (books, articles, lectures, youtube links, ppts etc.) to the students as a paper wise list for each semester. A lot of study material, hand-outs, presentations, and lectures etc. have already been shared with students either on emails or through google drives. Also, study material had been continuously uploaded on CIC website for the reference to students.

The weblinks in this document are only for the reference of students of Cluster Innovation Centre, purely for academic purposes. Since, all of these are available in the public domain, no Copyright infringement is intended.

SEMESTER: II

Paper Name: Linearity in Nature: Engineering through Linear Algebra. First steps through numerical algorithms.

Name of Faculty Members: Sakshi

Paper Code: II.1

Course and Semester: B.Tech. (IT &MI) Sem. II

Links of books or material to be shared:

1. https://books.google.co.in/books/about/Linear_Algebra_A_Modern_Introduction.html?id=V-UbCgAAQBAJ&redir_esc=y
2. <https://pdfs.semanticscholar.org/405f/9ad46ab3fd12c3929883571390d0a7d0e580.pdf>

Paper name: Understanding real life situations through Discrete Mathematics

Name of faculty member: Dr. Sonam Tanwar

Paper code: II.2

Course: B.Tech. (IT & MI), Sem. II

Links of books or material to be shared:

- <https://drive.google.com/file/d/1quPYjhWSNsr6yQoyfVGGcyLcdUPn9INA/view?usp=sharing>
https://drive.google.com/file/d/1dLiq4duhf_CDnQ199I2kk1gTrQOHfjN/view?usp=sharing

Paper Name: Optimizing memory use through Data Structure and Design

Name of faculty member: Sachin Kumar

Course: B.Tech. (IT & MI), Sem. II

Course Code: II.3

Links of books or material to be shared:



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<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#dataStructuresAndProgrammingTechniques>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#asymptoticNotation>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#linkedLists>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#abstractDataTypes>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#binaryTrees>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#binarySearchTrees>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#heaps>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#hashTables>

<http://www.cs.yale.edu/homes/aspnes/classes/223/notes.html#graphs>

Paper name: Reflecting thought process via Object Oriented Programming

Name of faculty member: Anjani Kumar

Paper code: II.4

Course: B. Tech. (IT & MI), Sem. II

Links of books or material to be shared:

<https://www.academia.edu/8456840/Java-the-complete-reference-7th-edition>

Paper Name: Physics at work II: Deconstructing Devices

Name of faculty member: Dr. Swati Arora

Paper Code: II.5

Course: B.Tech. (IT & MI), Sem. II

Links of books or material to be shared:

<https://msashigri.files.wordpress.com/2016/11/introduction-to-electrodynamics-by-griffiths.pdf>

<https://www.amu.ac.in/emp/studym/100005434.pdf>

https://highereducation.tripura.gov.in/HE_Resource_Materials/Physics_electrostatics.pdf

Books to be referred

1. Vector analysis – Schaum's Outline, M.R. Spiegel, S. Lipschutz, D. Spellman, 2ndEdn., 2009, McGraw- Hill Education.
2. Electricity & Magnetism, J.H. Fewkes & J. Yarwood. Vol. I, 1991, Oxford Univ. Press
3. Electricity and Magnetism, D C Tayal, 1988, Himalaya Publishing House.
4. Fundamentals of Electromagnetics, M.A.W. Miah, 1982, Tata McGraw Hill
5. D.J. Griffiths, Introduction to Electrodynamics, 3rd Edn, 1998, Benjamin Cummings.

Paper name: Art of Communication and Creative Writing

Name of faculty member: Dr. Dorje Dawa

Paper code: II.6

Course: B. Tech. (IT & MI), Sem. II

Links of books or material to be shared:

1. Introduction to Communication. Objective of Communication and Communication and its process: https://wikieducator.org/INTRODUCTION_TO_COMMUNICATION

2. Scientific communication: https://www.sheffield.ac.uk/polopoly_fs/1.96443!/file/report-writing-06-07.pdf



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3. Business letter writing: <http://www.galaxyimrj.com/V2/n5/Patel.pdf>
 4. Creative writing: <https://www.uvm.edu/wid/writingcenter/tutortips/WritingCreativePage.pdf>

Paper name: Business Process and Strategic IT Alignment

Name of faculty member: Nishant Sapra

Paper code: II.7.1

Course: B. Tech. (IT & MI), Sem. II

Links of books or material to be shared:

https://www.academia.edu/24179428/E-Business_and_E-Commerce_Management_4th_Edition?auto=download

<https://www.oreilly.com/library/view/it-enabled-business-change/9781902505916/>

Paper name: Electronics at Work & Circuit Simulation

Name of faculty member: Prof. Pankaj Tyagi

Paper code: 911213 (II. 7.2)

Course: B. Tech. (IT & MI) , Sem. II

Links of books or material to be shared:

<https://freevidelectures.com/course/2312/basic-electronics> (All Nine Lectures)

<https://freevidelectures.com/course/3164/digital-electronics> (All Six Lecture)

<https://freevidelectures.com/course/3492/signals-and-system> (First 4 Lecture)

<http://engineering.nyu.edu/gk12/amps-cbri/pdf/Basic%20Electronics.pdf> (PPT)

<https://nptel.ac.in/courses/122106025/> (Basic Electronics course on NPTEL, government website)

Paper Name: Exploring Biology: Systems approach

Name of faculty member: Dr. Asani Bhaduri

Paper code: II.7.3

Course: B. Tech. (IT & MI) , Sem. II

Links of books or material to be shared:

a. Google drive folder "Intro Bio" (Shared with students attending the course).

b. <https://openstax.org/books/concepts-biology/pages/1-introduction>

c. <https://www.ncbi.nlm.nih.gov/books/NBK9839/?term=biology>

d. https://en.wikibooks.org/wiki/Cell_Biology

e. <http://www.talkorigins.org/pdf/faq-intro-to-biology.pdf>

f. <https://www.ncbi.nlm.nih.gov/books/NBK21125/>

g. <https://archive.org/details/originofspecies00darwuoft/page/n6/mode/2up>

SEMESTER: IV

Paper Name: Does nature Play Dice? the amazing world of Probability and Statistics.

Name: Prof. Shobha Bagai

Paper Code: 911408 (IV.1)

Course: B.Tech (IT & MI), Sem. IV



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Links of books or material to be shared:

- Testing of Hypothesis – Part I (<https://youtu.be/V2zjwMeae70>)
Testing of Hypothesis – Part II (<https://youtu.be/9AT2--vE5Ns>)
Testing of Hypothesis – Part III (https://youtu.be/mi_5glMaLmA)
Testing of Hypothesis – Part IV (<https://youtu.be/4h6cOHx524M>)
Point Estimation of Parameters (<https://youtu.be/pELvsdi2olc>)
Methods of Point Estimations (<https://youtu.be/-MF8n5yjdrk>)

Paper name: Understanding Computing Systems Architecture

Name of faculty member: Shobha Rai

Paper code: 911409, IV.2

Course: B.Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

1. computer system architecture by morris mano
<https://faculty.psau.edu.sa/filedownload/doc-10-pdf-d171a71acbe44cd5cd2f78a40570a069-original.pdf>
2. computer organization & architecture by william stallings
http://home.ustc.edu.cn/~leedsong/reference_books_tools/Computer%20Organization%20and%20Architecture%2010th%20-%20William%20Stallings.pdf

Paper Name: Software Engineering

Name of the faculty member: Sachin Kumar

Course: B.Tech. (IT & MI), Sem. IV

Course Code: IV.3

Links of books or material to be shared:

- <https://drive.google.com/file/d/0BxQVK2HtmaEdXy0tU2Q5MENxUFE/edit>
<https://www.ece.rutgers.edu/~marsic/books/SE/instructor/slides/>

Paper Name: Science, Philosophy, Truth: Impact of technology

Name of faculty member: Dr. Dorje Dawa

Paper code: 911411 (IV.4)

Course: B. Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

1. Introduction to Philosophy of Science: <https://web.stanford.edu/class/symsys130/Philosophy%20of%20science.pdf>
2. Science and Structural Revolution: <https://plato.stanford.edu/entries/thomas-kuhn/>
3. Science as a pursuit of truth: Theory of falsification by Karl Popper: <https://nptel.ac.in/content/storage2/courses/109103024/pdf/module1/SM%20Lec%202.pdf>

Paper Name: Understanding Economic Behaviour: The macro level Macro Economics

Name of faculty member: Urvashi Verma

Paper code: 911412 (IV.5.1)



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Course: B. Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

Fiscal Policy Part 1

<https://drive.google.com/file/d/1Ed1Q3QEn8gICB86RiB9jRhoyra0OawNu/view?usp=sharing>

Fiscal Policy Part 2

<https://drive.google.com/open?id=12tGcXj1aXHhojUFTUi6jsmw5WIoyZ8NH>

Fiscal Policy Part 3

https://drive.google.com/open?id=1ixFSEq-BhUI8xpKIUhbnXLcByke_n_on

Fiscal Policy Part 4

https://drive.google.com/open?id=1B0rHesa0uwS2FmEYSms6Owmhfx5Fa_3T

Balance of Payment Part 1

<https://drive.google.com/open?id=1mQofCCzYWXoe25uRPyBhpk1YtV61caNm>

Balance of Payment Part 2

<https://drive.google.com/open?id=1VLQWon1vm--IADYx2a9Mm3-cAqYWYa8K>

Foreign Exchange rate

<https://drive.google.com/open?id=1Nlxh5G9P-SLSTv35bXGKaD8boozjR6UP>

Monetary Policy

https://drive.google.com/open?id=1cbI8ZaSvjxLiidvX_W5WBFY5DUUdEX6k

Inflation

<https://drive.google.com/open?id=1MZZy58T7IY4PNTI30xoPHt6BNxM2akDK>

Paper name: Digital Electronics and logic design

Name of faculty member: Parveen

Paper number: IV.5.2

Course: B. Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

http://dl.booktolearn.com/ebooks2/engineering/electrical/9789814364584_foundation_of_digital_electronics_and_logic_design_0516.pdf

Paper name: Digital Electronics and Logic Design: Innovation Lab

Name of faculty member: Prof. Pankaj Tyagi

Paper code: 911416 (IV.5.2)

Course: B. Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

<http://www.digitalcircuitdesign.com>

<https://www.pling.org.uk/cs/idd.html>

<https://www.electronics-notes.com/articles/digital-embedded-processing/logic-circuits-design/design-guidelines-overview.php>

Paper name: Genes to Genomes

Name of faculty member: Dr. Asani Bhaduri + Dr. Jogeswar S. Purohit

Paper code: IV.5.3

Course: B.Tech. (IT & MI), Sem. IV

Links of books or material to be shared:



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- Google drive folder "Genetic Bio" (Shared with students attending the course).
 - <https://www.ncbi.nlm.nih.gov/books/NBK21766/?term=genetics>
 - <https://www.ncbi.nlm.nih.gov/books/NBK9839/?term=biology>
 - <https://www.ncbi.nlm.nih.gov/books/NBK1732/>
 - <http://www.talkorigins.org/pdf/faq-intro-to-biology.pdf>
 - <https://www.ncbi.nlm.nih.gov/books/NBK21125/>
 - Epigenetics: ·
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwiK1OLZ46npAhWJ73MBHVGNAdkQFjACegQIBBAB&url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F26771184_Epigenetics_Definition_Mechanisms_and_Clinical_Perspective&usg=AOvVaw0tl-cEY0SOJMibcQV8nRvZ
 - Mi and Si RNA
<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwi-75aO5KnpAhV5ILcAHYacDT0QFjACegQIAhAB&url=https%3A%2F%2Fwww.gene-quantification.de%2Fpushparaj-sarna-in-vivo-applications-2008.pdf&usg=AOvVaw1bjhrnKHFH9xNwlk8XGE1P>
 - Transposons:
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwiA7-6q5KnpAhXG7XMBHca0D0UQFjACegQIAhAB&url=https%3A%2F%2Flink.springer.com%2Fprotocol%2F10.1007%2F978-1-4939-9074-0_6&usg=AOvVaw08MCRSGbuTAcgPs9nwE9tl
 - Regulation of gene expression in eukaryotes
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=13&cad=rja&uact=8&ved=2ahUKEwjF_aPd56npAhVk63MBHaYYAv4QFjAMegQIBhAB&url=https%3A%2F%2Fncnp.org%2Fwp-content%2Fuploads%2F2017%2F11%2FCH17_217-228.pdf&usg=AOvVaw2_1_4_OTDR-jdXJc7fmKMc

Paper name: Bringing Companies and clients together: Sales and Marketing Management

Name of faculty member: Dr. Subhash Kumar

Paper Number: 911415 (IV.6.1)

Course: B.Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

Book Reference: Kotler, P. and K L Keller (2018). *Marketing management*, Pearson Publishing, Universität Basel.

<https://drive.google.com/file/d/1rVuzLIIfkDiXWC6VBrz27yJTl3LVf0EJ/view?usp=sharing>

Paper Name: Flow of information in living systems

Name of the faculty member: Dr. Mahima Kaushik

Paper Code: 911417 (IV. 6.3)

Course: B. Tech. (IT & MI), Sem. IV

Links of books or material to be shared:

- Nature of genetic material (DNA/ RNA/ Genetic code), Process of information transfer (Replication, Transcription and translation machinery)



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- http://biology.kenyon.edu/courses/biol63/watson_06.pdf
 - [https://bio.libretexts.org/Courses/University_of_California_Davis/BIS_2A%3A_Introductory_Biology_\(Easlon\)/Readings/18.1%3A_Transcription—from_DNA_to_RNA](https://bio.libretexts.org/Courses/University_of_California_Davis/BIS_2A%3A_Introductory_Biology_(Easlon)/Readings/18.1%3A_Transcription—from_DNA_to_RNA)
 - <http://www.chem.latech.edu/~upali/chem121/Notes-C22-121.pdf>
 - https://application.wiley-vch.de/books/sample/3527316035_c01.pdf
2. Energetics and accuracy of information transfer – Problems of information transfer (DNA damage and repair)
- <https://www.nature.com/articles/nature01408.pdf>
 - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5474181/pdf/nihms862014.pdf>
3. Regulation of informational transfer (transcription factors, operon)
- <https://courses.lumenlearning.com/microbiology/chapter/gene-regulation-operon-theory/>
 - [https://bio.libretexts.org/Courses/University_of_California_Davis/BIS_2A%3A_Introductory_Biology_\(Britt\)/Readings/29%3A_Regulation_of_Gene_Expression](https://bio.libretexts.org/Courses/University_of_California_Davis/BIS_2A%3A_Introductory_Biology_(Britt)/Readings/29%3A_Regulation_of_Gene_Expression)
4. DNA packaging and chromatin structure.
- <https://www.ncbi.nlm.nih.gov/books/NBK26834/>

Engineering Kitchen Activities [Laboratory]:

1. Gel electrophoresis
<https://www.youtube.com/watch?v=mN5IvS96wNk&t=131s>
2. Polymerase chain reaction (PCR)
<https://www.youtube.com/watch?v=nHi-3jP6Mvc>
3. Primer design
<https://www.youtube.com/watch?v=P2ctzK2ZbHY>
4. Spectrometry, Analysis of growth curve, molar extinction coefficient, absorption maxima
<https://www.youtube.com/watch?v=zuUvQN8KXOk>
5. Restriction digestion, Introductory Gene Cloning (Transformation to Ligation)
<https://www.youtube.com/watch?v=Gsw08dCivWs>
<https://www.youtube.com/watch?v=-kHOEtaWntA>

SEMESTER: VI

Paper name: Linear Construction of Actions: Engineering through *Linear Programming and Game Theory*

Name: Dr. Nirmal Yadav

Paper Code: 911610 (VI.1)

Course: B.Tech. (IT & MI), Sem. VI

Links of books or material to be shared:



[172-Operations-Research-An-Introduction-Hamdy-A...](#)



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405 01 This An Introduction to-linear-programmi...

Paper name: Computer Graphics and Visualization Architecture

Name of faculty member: Neeraj Kohli

Paper code: VI.2

Course: B.Tech. (IT&MI), Sem. VI

Links of books or material to be shared: .

Computer Graphics by Hearn & Baker

https://drive.google.com/open?id=1iCWnVgRbq-DnoSzFcXifB_sHkmKX0fvJ

Computer Graphics Schaum's Series

<https://drive.google.com/open?id=1t-WLwgoXNpIZNU13qoaWz7iiXtYoVM98>

Paper name: Advanced Algorithms Design

Name of faculty member: Neeraj Kohli

Paper code: VI.3

Course: B.Tech (IT&MI), Sem. VI

Links of books or material to be shared:

Randomized Algorithms by Motwani etc

<https://drive.google.com/open?id=1SQE7AX1IwxuE2N84GWBtzGfPuS-sgPIv>

Algorithms by Cormen et al

<https://drive.google.com/open?id=16Wku5jfu9wrWyJoiNWR6PUrTUuAU-VJA>

Approximation Algos for NP hard problems Hocbaum et al

<https://drive.google.com/open?id=1a2HwZ0hv3UqwxelvXEvBHUN72abg99YQ>

For search heuristics

<https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-034-artificial-intelligence-fall-2010/lecture-videos/lecture-5-search-optimal-branch-and-bound-a/>

For fibonacci heaps

http://hscs.cs.nthu.edu.tw/~sheujp/lecture_note/11algorithm/chapter19-1.pdf

http://hscs.cs.nthu.edu.tw/~sheujp/lecture_note/11algorithm/chapter19-2.pdf

Paper name: Art & Design

Name of faculty member: Prof. B. Biswal

Paper code: VI.4

Course: B.Tech (IT&MI), Sem. VI

Links of books or material to be shared:

<https://vernonpress.com/file/3783/a4cd57c64639592392b67c59a845f385/1493034322.pdf>

<https://dschool->

old.stanford.edu/sandbox/groups/designresources/wiki/36873/attachments/74b3d/ModeGuideBOOTCAMP2010L.pdf

<http://www.visual-arts-cork.com/art-definition.htm>

Paper name: Handling Money - Finance Management



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Name of faculty member: Nishant Sapra

Paper code: VI.5.1

Course: B.Tech (IT & MI), Sem. VI

Links of books or material to be shared:

http://www.crectirupati.com/sites/default/files/lecture_notes/finance%20notes.pdf

<http://www.eiilmuniversity.co.in/downloads/Financial-Management.pdf>

<http://www.sasurieengg.com/e-course-material/MBA/I-Year-Sem-2/BA7202%20FINANCIAL%20MANAGEMENT.pdf>

Paper name: Embedded system studio-II

Name of faculty member: Parveen

Paper number: VI.5.2

Course: B. Tech. (IT & MI) , Sem. VI

Links of books or material to be shared:

http://vhdl-manual.narod.ru/books/programming_by_example.pdf

http://www.pld.ttu.ee/~alsu/Pedroni_2010_Circuit%20Design%20and%20Simulation%20with%20VHDL.pdf

<https://www.arl.wustl.edu/~jst/cse/260/ddc.pdf>

Name of faculty member: Dr. Jogeswar S Purohit

Paper name: Biodefense and Bioengineering

Paper code: VI. 5.3

Course: B. Tech. (IT & MI) Sem. VI

Links of books or material to be shared:

1. Overview of the Immune Response doi:10.1016/j.jaci.2009.12.980

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwj125yQyqnpAhUY73MBHWmLA8gQFjACegQIAhAB&url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC2923430%2F&usg=AOvVaw1CEsRa91XB YfBklpCl6pGn>

2. Polyclonal Antibodies <https://www.researchgate.net/publication/251845366>

3. Monoclonal Antibodies DOI: 10.22271/ed.book04.a03
<https://www.researchgate.net/publication/322853339>

4. Immunolocalization <http://www.as-botanicalstudies.com/content/55/1/63>

5. antibody structure.

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=20&cad=rja&uact=8&ved=2ahUKEwiS8P7QzKnpAhVg4nMBHcMVCE0QFjATegQIBRAB&url=https%3A%2F%2Fwww.wiley-vch.de%2Fbooks%2Fsample%2F3527333177_c01.pdf&usg=AOvVaw2WSPQLZoGdoI Y_zVw-tTHA

Paper name: E-Business: Organization and Strategy

Name of faculty member: Dr Subhash Kumar

Paper Number: 911617 (VI. 6.1)

Course: B.Tech (IT & MI), Semester VI



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Links of books or material to be shared:

*Reference Book: A. Afuah and C. L. Tucci (2003) *Internet Business Models and Strategies: Text and Cases*, McGraw-Hill.

https://drive.google.com/file/d/1ICajzGQ1Ra0HI-M3tdaAj_fqPRhYVNzR/view?usp=sharing

Paper name: Control Systems

Name of faculty member: Harendra Pal Singh

Paper code: 911618 (VI.6.2)

Course: B.Tech. (IT&MI) VI Semester

Links of books or material to be shared:

<https://dademuchconnection.files.wordpress.com/2017/07/control-systems-engineering-norman-nise.pdf>

<https://www.kau.edu.sa/Files/0060757/Subjects/2%20Simulink%20Basics%20Tutorial.pdf>

http://www.silviosimani.it/simulink_for_beginners.pdf

Paper name: *in silico* Biology

Name of faculty member: Dr. Asani Bhaduri and Dr. Mahima Kaushik

Paper code: 911619, VI.6.3

Course: B. Tech. (IT&MI), Sem. VI

Links of books or material to be shared:

a. Google drive folder "Crazy Bio" (Shared with students attending the course).

b. <https://www.ncbi.nlm.nih.gov/books/NBK550339/?term=bioinformatics>

c. https://www.academia.edu/41704027/Introduction_to_Bioinformatics_by_Arthur_M._Lesk

d. <https://www.e-booksdirectory.com/details.php?ebook=2584>

e. <https://www.e-booksdirectory.com/details.php?ebook=4481>

f. <https://www.ncbi.nlm.nih.gov/books/NBK1732/>

Engineering Kitchen Activities [Laboratory]:

1. Sequence analysis (BLAST, FASTA). Database (NCBI, DDBJ, EMBL).

<https://blast.ncbi.nlm.nih.gov/Blast.cgi>

<https://www.ddbj.nig.ac.jp/index-e.html>

<https://www.ebi.ac.uk/ena>

2. Motif and Promoter searches (e.g. CD-Search, SMART, SignalP).

<https://www.youtube.com/watch?v=5DWnCooAmb8>

<https://www.youtube.com/watch?v=83omZV8Bk3w>

3. Phylogenetic analysis (PHYLIP, MEGA).

<https://www.youtube.com/watch?v=wPRCLnF2NYk>

<https://www.youtube.com/watch?v=gc7dcShYBvE>

4. Protein interaction (STRING, BioGRID).

<https://www.youtube.com/watch?v=8-IPJqXYQ3Q>

<https://www.youtube.com/watch?v=lvX24gvZYDs>

5. Protein structure, Function (PROSITE programs, Chimera.)

<https://www.youtube.com/watch?v=4RCfMD0fFYs>

https://www.youtube.com/watch?v=YJo2-1PDJtI&list=PL9hsubGPISJFDk_YFRr65rtLjsXvd0-2r



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6. Gene expression, function (GEA, Gene card, OMIM).

<https://www.youtube.com/watch?v=8AtGxxkcic8>

<https://www.youtube.com/watch?v=hNea0XISYOo>

<https://www.youtube.com/watch?v=QIZ8QH6JcC8&t=248s>

<https://www.youtube.com/watch?v=QvavxKazmsY>