

HARLAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY

DEPARTMENT OF BIOTECHNOLOGY

Content B.Sc (First Year)

S.No	TOPIC	LINK
BT-101- BIOCHEMISTRY		
1	Aminoacids	https://drive.google.com/open?id=1aKPt9WpRhEhS4adaFBkv9yLXidJb8z9Z
2	Enzymes- protein and non protein	https://drive.google.com/open?id=1atMPpVVTfFAQSNMbntztm2RE22GqpoVA
3	Enzyme kinetics	https://drive.google.com/open?id=1atMPpVVTfFAQSNMbntztm2RE22GqpoVA
4	Enzyme inhibition	https://drive.google.com/open?id=1hyIYoWJx3tymm51qg_gRuElVKfPvCPlg
5	Protein Metabolism	https://drive.google.com/open?id=1gtEx3ItC4Jf778TuzmwDnU1IK531w3g1
6	Vitamins and Defficiency Diseases	https://drive.google.com/open?id=1nJlpoKw80QXiTDP9gbHNXQ9N59v5otqM
7	Fatty acid metabolism (Synthesis and degradation)	https://www.ncbi.nlm.nih.gov/books/NBK21173/
8	Structure and function of coenzymes; and Ribozyme, Abzyme, Synzyme	http://www.biologydiscussion.com/enzymes/structure-and-function-of-various-coenzymes-with-diagram/50366
9	Isolation & purification of enzyme	http://www.biologydiscussion.com/enzymes/enzyme-technology/enzyme-technology-application-and-commercial-production-of-enzymes/10185
10	Protein turnover (Protein metabolism)	http://www.biologydiscussion.com/proteins/metabolism-proteins/protein-digestion-and-absorption-process-protein-metabolism/17210
11	Nucleic acid metabolism (only go through "De novo synthesis of nucleotides")	http://www.biologydiscussion.com/acids/nucleic-acid/biosynthesis-of-purine-nucleotides-pyrimidine-nucleotides-and-deoxyribonucleotides/17271
BT-102-BIOPHYSICS		
1	The chemical nature of cell	https://drive.google.com/open?id=1AwbS5FbGHxkRRX-3A0vh42wQE8IW7BkC
2	Scope of biophysics	https://drive.google.com/open?id=1qYeUr9yHXpNB4HcSBYxABYZGTOqi7DzD
3	Inter an Intramolecular nuclear interaction	https://drive.google.com/open?id=1v9b_-o5JaOp8K3G74hu2FqfS6sSqJAfu
4	Chirality and its compounds	https://drive.google.com/open?id=1v9FPOfB6aHtL-QiIJ8vKkka8HzqPdtb
5	Bioenergetics	https://drive.google.com/open?id=1YTis8VQCnbaOKBA2R6tZ5ca8HbK-g5GY
6	Antigen and antibody reaction	https://drive.google.com/open?id=10uGnTtumaP4CTN7-GGuVjreh481qANcj
7	Light reception in plant microbes	https://drive.google.com/open?id=1PWbHJBXL0K-8VvxkSSGpEkQp4Ise7KF
8	Growth Factors	https://drive.google.com/open?id=11FGyEkoGRVWIVfzdA8CEfgwfvnVFOkmF
9	Correction of vision faults	https://drive.google.com/open?id=1j_SxOqE6iyUA4GIIv21cFmCBYMF1O7-0
BT-103-CELL BIOLOGY		
1	Cell Junction	https://www.ncbi.nlm.nih.gov/books/NBK26857/
2	Cell Locomotion	https://drive.google.com/open?id=1qUTw0qwaAWtq5SvXAUzwBHHVGscwhz0M
3	Muscle cell: Structure and Fuction	https://biologydictionary.net/muscle-cell/ https://opentextbc.ca/anatomyandphysiology/chapter/10-2-skeletal-muscle/
4	Nerve Cell	https://drive.google.com/open?id=1--_APCL3RMnYY9V1xSMmQqo_5ILRVWOi
5	Cell Senescence	https://drive.google.com/open?id=1-YaopJh1GF7tq4ISN8P8APSpNuKcCBtR
6	Programmed cell death	https://drive.google.com/open?id=1DcmzJgCzz-CikHxN6oINbm3SCDqiNqzF
7	Cell differentaitaion: Difference between normal and cancer cell	https://opentextbc.ca/anatomyandphysiology/chapter/3-6-cellular-differentiation/ https://www.verywellhealth.com/cancer-cells-vs-normal-cells-2248794
8	Artificial cell	https://drive.google.com/open?id=1cWoCWOLiCfIOv8MUfFbIMagrHLKyVdCpC
9	Cell signalling and signal transduction	https://drive.google.com/open?id=1ihJcWo9y7NzZxFB9SP8LLodSaX1edXuv
BT-104-MICROBIOLOGY		
1	Symbiosis among Microorganism	https://drive.google.com/open?id=1r4GsxdZ6B4u14hUPpaJmCRB3TmeZG2q
2	Pathogenic Microorganism	https://drive.google.com/open?id=1HEU7AJN_cnu6teyzk0fYbUBauWgWvjaR
3	Industrial microbes and their uses- production of antibiotics (only penicillin & streptomycin)	https://drive.google.com/open?id=13qkhC34zpGJGrkvgbKrtfDISmHSfDSR
4	Microbes in extreme environments: the thermophiles & alkalophiles	https://drive.google.com/open?id=1GrixRiY9JOhgQrQBYvFSrR4VC9BXMqGq
5	Industrial microbes and their uses- production of food (dairy products eg. Yogurt)	http://www.biologydiscussion.com/microorganisms/microbes-microorganisms/microbes-in-the-food-industry-microorganisms-biology/82587
6	Industrial microbes and their uses- production of food (dairy & SCP- single cell protein)	http://www.biologydiscussion.com/food-microbiology/single-cell-protein-scp-production-and-advantages/55699
7	Defense mechanism against microorganisms	http://www.biologydiscussion.com/essay/human-health/essay-on-the-types-of-defence-mechanism-human-health-biology/75886
BT-105-Genetics		
1	Types of Transformation	https://drive.google.com/open?id=1CdQ77gYg79gblqF9WaseZItD6lTRibJU

2	Transduction	https://drive.google.com/open?id=1CdQ77gYg79gblqF9WaseZltD6lTRibJU
3	Mitochondrial Inheritance	https://drive.google.com/open?id=12Nf4wHwouSgg1tQ7G_7izLPeVF5n8ZU4
4	Gentic Mapping	https://www.slideshare.net/arif810/gene-and-genetic-mapping-by-recombination
5	Classic and modern Gene concept	https://drive.google.com/open?id=1iwGa5AyiPrHD5F_ZmtjP0_A6jiEtqJ8N
6	Pseudoalleles	https://drive.google.com/open?id=1IAIAgESxqK3ijFag-quy2xc26YSQ6-2h
7	rII locus in T4 Phage	https://www.slideshare.net/deeptipawar3/genetics-ppt-62096481
8	Pedigree Analysis	https://drive.google.com/open?id=1A6lGw-GC3d7emkj_rjxKrJKHkR-M8K4F
9	Penetrance and Expressivity	https://www.google.com/search?q=pedigree+analysis&source=lmns&tbm=vid&bih=560&biw=360&prmd=ivbn&hl=bn&ved=2ahUKEwi7tMe0jtboAhW2g0sFHbPSA48Q_AUoAAnoECAAQBQ#
10	Hardy Weinberg Principle	https://drive.google.com/open?id=1bW_X3WzmGnXTn9UD4OTTQLXipqizUoP9
BT-106-Instrumentation and Bioanalytical Techniques		
1	Spectroscopy- Basics	https://drive.google.com/open?id=1_Uxz7LPgFL9byHLZ4zuRjwdhQQmghZX0
2	Radioactivity	https://drive.google.com/open?id=16uHwF41hVexB3whHFeOXet2FOwomHyfX
3	Mass spectrometry -MALDI	https://drive.google.com/open?id=1NHGuUa8BcJ87_wdC52LPJQmLRhJ2v5_
4	Law of radiation and Adsorption	https://drive.google.com/open?id=1wIHj4IDBLkzhLyHgWaR-RdHnatHdNkcW
5	Fluorescence Spectroscopy	https://drive.google.com/open?id=1zu9EplLBon_1NRfiP5-HvhwrSqcBis3
6	Colorimetry	https://drive.google.com/open?id=1YVYFQ5-SDhofseR05Q0mQVnZppPbngj_
7	Polarography	https://drive.google.com/open?id=1zu9EplLBon_1NRfiP5-HvhwrSqcBis3
8	Centrifugation	https://drive.google.com/open?id=17Tyh8gAhnV8tWzdEoOW5Z5GocOFfc5Gd
BT-108- BIODIVERSITY		
1	Trade and Environment	https://drive.google.com/open?id=1-3DIZXl8iBL0X0ZlnsTcLiEWmNaXx5vF
2	International Trade in endangered species	https://drive.google.com/open?id=1xg-z8vOx3kmnfKQOic8UguWZdU4naDyY
3	Overexploitation	https://drive.google.com/open?id=1j4RvYfYkwfh5ILSctYbPf3posGhw82YE
4	Gap Analysis	https://drive.google.com/open?id=1j4RvYfYkwfh5ILSctYbPf3posGhw82YE
5	Environment Protection and Free Trade	https://drive.google.com/open?id=1bWaa62XUUEu9-JM5D7nG-amKrmjOm1g_
6	CITES	https://drive.google.com/open?id=1EqLmJCaZMKqRIR_ef_tApbze5H_yi-nN
7	CGIAR	https://drive.google.com/open?id=16HWD4NoAEglTXQ7cKMW-Wz33lHInuSoM
8	Biodiversity Threats	https://drive.google.com/open?id=1JePYEkGwtlMEuw7Ja9jB6py5iLkKMaWJ
9	Advantages and Disadvantages of Free trade	https://drive.google.com/open?id=1yX07esLw53k_mtiVrLT3V4_YbWlamtFw
BT-108-CHEMISTRY		
1	Real Gases	https://drive.google.com/open?id=1ZBZ8-6aQwAQvtY9Uwjs8d_3DO2BmCAO6
2	P block Group 5-18 elements	https://drive.google.com/open?id=1o8Mr6t8_7dqhYjc9rH-JJ5vrnA2l3T7p
3	Max Boltzmann Distribution	https://drive.google.com/open?id=1DmdhT5XJDPKNp3gpvGFVff4L8QZMhRnZ
4	High Energy Biomolecules	https://drive.google.com/open?id=1tJDFqh-mBtAvYSPiWfYF_u6DbxdMREL
5	Chemical Kinetics	https://drive.google.com/open?id=1tWcflauUsf8FfRbRDdjneJLrP7cxLza3
6	Kinetic theory of Gases and Real Gases	https://drive.google.com/open?id=1KMOLxvfHozO_kkEBBvbfueBHATaGOHXF
7	Order of Reaction	https://drive.google.com/open?id=1Y5lQ9mCZKlcZXL-fGFC-6U1_Sc0Mxf5W
8	Mechanism of reaction (zero, first, second and pseudo or	https://drive.google.com/open?id=1Y5lQ9mCZKlcZXL-fGFC-6U1_Sc0Mxf5W

HARLAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY		
DEPARTMENT OF BIOTECHNOLOGY		
E-Content B.Sc (Second Year)		
S.No	TOPIC	LINK
BT-201- FUNDAMENTALS OF COMPUTERS & BIOINFORMATICS		
1	Databases	https://drive.google.com/open?id=1OpgUuvhy4pw4csWFCyNyGX56PO4o8dCj
2	Local Alignmnet	https://drive.google.com/open?id=11ZeBW6_FSXexGrK1sPfujzTsNSLrwFbm
3	Sequence Alignmnet	https://drive.google.com/open?id=19bSFLewFncZ1o0_549tdXrvQy_OYYOI
4	Drug Discovery	https://drive.google.com/open?id=1P8ItkgV4Xofh8vjxaOeYhBtevQYR7Nw
5	Computer -aided Drig Desiging	https://drive.google.com/open?id=1TOKVSQdXDhXGK86FbEYdJuBdm4LwYvt
6	Multiple Sequence Alignment	https://drive.google.com/open?id=1wGJFh3JlP1HeftHIZMBcQLbAyJJeYluk
7	Scoring Matrices	https://drive.google.com/open?id=1o1mo0M2fOg5fWwPXki8nZ9L1cNypMLb-
8	File formats	https://drive.google.com/open?id=1NxX3frpvMMIJhucJMwIThs88APJgNXea
BT-202-BIOENERGETICS AND BIOMEMBRANES		
1	Thermodyanamics of Transport	https://drive.google.com/open?id=1BwzBZeIxQG86hcDe2QOVfs6gcIvfstPm
2	RBC Membrane	https://drive.google.com/open?id=1eqJfgTuZB7RnIpliYKIRK17bO3L8M7-C
3	Ionophores	https://drive.google.com/open?id=1c7ozTepHcdc1xS4q4sgYsU-BATX5Vvyi
4	ETC and Oxidative Phosphorylation	https://drive.google.com/open?id=1maup3Mk7KgOIJ7vAuGq09Uei43f4q6Ov
5	Erythrocyte Membrane	https://drive.google.com/open?id=15XdvcP8vml7qTiHXIjx-Md4p5V8hJDCu
6	ATP driven active transport	https://drive.google.com/open?id=1vkHL35NNXMBwvYU15Ib4407eQbhZrZ3
7	ActiveTransport by ion gradient	https://drive.google.com/open?id=1TVSa9_-AB_zBpRoA7iRZNbfj2cN7zDnJ
BT-203-MOLECULAR BIOLOGY		
1	RNA Splicing	https://drive.google.com/open?id=1SV95gzZho7sx7Z3x4W0491Ndkvpc36CC
2	Prokaryotic translation and gene structure	https://drive.google.com/open?id=1EI81HaEoxEZkvQKJncIEfmrD-9HRGDm
3	pre-tRNA processing	https://drive.google.com/open?id=1UI3cPa6zE5QCdYul9IM9ghmF7S3jvA3
4	Genetic codo, wobble hypothesis	https://drive.google.com/open?id=10thjZwD-1C1-IqorVvXPIt5F6A7oFluw
5	Transposable element in Maize and Drosophila	http://www.biologydiscussion.com/chromosomes/transposable-elements-in-the-eukaryotic-organisms-chromosome/35993
6	Histidine operon	http://www.slideshare.net/vivekaiden/histidine-operon?from_m_app=android
7	Prokaryotic Transcription	https://drive.google.com/open?id=1QcqXeynEeC9uHPUiSo9_a55ISVhiTByI
8	Eukaryotic transcription	https://drive.google.com/open?id=1MuFD_cL44dmL5a8qUUvXRRWvmXdtJ4O
9	Eukaryotic translation	https://drive.google.com/open?id=1YUZOxhFLL-4NuntXg-rd2N9OXoZEWoJR
BT-204-MOLECULAR GENETICS AND CYTOGENETICS		
1	Pseudoalleles	https://drive.google.com/open?id=1HDj3qITyqDTIPhpa79HDFmsMtYU6eOWj
2	Position effect	https://drive.google.com/open?id=1YeEf7HWoMXPme77awSQhzmTV1jytNxB
3	RFLP,AFLP,RAPD	https://drive.google.com/open?id=1TiUuMF5n5d6qEVKS1w3-_QHArhj10xwH
4	VNTR & SNP	https://drive.google.com/open?id=1HmhOj63_9-2VwTNn4yTjPwxecBV8GYT
5	Animal Genome Mapping	https://drive.google.com/open?id=1HmhOj63_9-2VwTNn4yTjPwxecBV8GYT
6	Potato Breeding	https://drive.google.com/open?id=1Wxi-fOdoEppTzK4vSa_KrDtroDPZX3IY
7	Maize Breeding	https://drive.google.com/open?id=1WFH6MgwzxJskU-huIPMU1DMcdaEmQOM9
8	Cotton Breeding	https://drive.google.com/open?id=1vw8J-4v5vSj3sxxg7diQik51ugYjld4n
9	Wheat Breeding	https://drive.google.com/open?id=19v55vrWJgCF-iHr0KPzEpHdJVqiyz0h
10	Plant Breeding	https://drive.google.com/open?id=138ajDp10AkNGLFiB4HunHGgyK5FcBfW1
BT-205-IMUNOLOGY AND IMMUNOTECHNOLOGY		
1	Historical Perspective	https://drive.google.com/open?id=1b6vhooRcPtkvcMWyVxHqGSB20xil_H9F
2	Immunoglobulin and Properties	https://drive.google.com/open?id=1Ky4cVALxjCe1PKV8K6XJe8FUr9qGliRI
3	Hypersensivity Reaction	https://drive.google.com/open?id=1f3Vu6hTiEubPru5WQcnBkxmlCkTih7uf
4	Major Histocompatibility factor	https://drive.google.com/open?id=1IjLpnEZgD_bkl-XVMdhwoKc-Xez959vI
5	Autoimmune Disorder	https://drive.google.com/open?id=1_suDRgsM3Ln6KuaJqqzDg6PIUh_FU-Yj
6	Blotting techniques	https://drive.google.com/open?id=1hGWjXZZinMQOu50Yzf3bna_nLIIfOaFP

7	Transplantation	https://drive.google.com/open?id=1nSpBGSPIDvVtO520tPIeNcJlNXSDAIZ7
8	Immunoflorescence	https://drive.google.com/open?id=1KFhNQDvUH1c91ux5_s-6OL1o-Wx0iBPV
9	Immunoassay	https://drive.google.com/open?id=1nAeGqWKKVFJyoOszHNEadtueX5W-IOXj
BT-206- RECOMBINANT DNA TECHNOLOGY		
1	Whole Genome short gun sequencing	https://drive.google.com/open?id=1KwJWvVxV5A6O3q5Cbdzp7lshXdy6TLol
2	Southern BLotting	https://drive.google.com/open?id=1_i4qSExUDZPR-9naKZiqvlp8jIE6H2FG
3	Dot and Slot Blotting Hybridization	https://drive.google.com/open?id=1Pbph25vXj1ZRhuwVEdSr6dINMU_XzmmY
4	PCR Applications	https://drive.google.com/open?id=17O3FMGCLQIBJ7ftjr4expCK5viO81cXA
5	Molecular Probes	https://drive.google.com/open?id=1zABgkofLf7pbqMojv9usbJl_TYXLgEOO
6	Microarray	https://drive.google.com/open?id=12fvKkTdgWKXTYN8HawbdJBrpuCxCC8Pj
7	Next generation Sequencing	https://drive.google.com/open?id=1kiEtSPJPYy0QAPxzACGeKCdUZbOyT_VX
8	Western Blotting	https://microbenotes.com/western-blotting-introduction-principle-and-applications
9	Protein array	https://www.slideshare.net/mobile/AnnMathew15/protein-microarrays
10	Site directed mutagenesis	http://www.biologydiscussion.com/gene/techniques-used-for-isolating-genes-from-any-organism/9891
BT-207-ANIMAL PHYSIOLOGY		
1	Antigen	https://drive.google.com/open?id=1MrQ8al0FpmIR1Q4cgxx_CBiUYxAyDPDC
2	Antibody	https://drive.google.com/open?id=164z2lui1MzKqXW9vUEb6sSuAOFrJHfD
3	Role of MHC molecules	https://drive.google.com/open?id=1s0l-AQxNiV2keEXb3TNWpBb44r4Sio90
4	Reproduction	https://drive.google.com/open?id=1oQ6IYdJPaWUammp10g7KDZvhen1Mw7bo
5	Male Reproductive System	https://drive.google.com/open?id=1IRGthc3gwSR7DTE3Pi9eCa-AbN1qWoD
6	Female Reproductive System	https://drive.google.com/open?id=18jMYBgIbB8rITufvcgCogtMildOI1SgDu
7	Endocrine Glands	https://drive.google.com/open?id=1ZMgUfrfJu_RFZ7mMZBcq7v42cpepx-fq
8	Transport of gases and Basics of respiration	https://opentextbc.ca/biology/chapter/20-2-gas-exchange-across-respiratory-surfaces/
9	Buffer System in Blood, Acidosis, Alkalosis	http://www.biologydiscussion.com/micro-biology/buffer-system-meaning-and-importance-with-diagram/17981
BT-208-PLANT PHYSIOLOGY		
1	Vernalization	https://drive.google.com/open?id=19l1lu1S-z2LPJjnxYg6VT0jNuMI8t2k1
2	Transpiration	https://drive.google.com/open?id=1K9F-2lbXG-ns9OAYWGSenZb1oWCSTq28
3	Senescence in Plants	https://drive.google.com/open?id=1d-NqfKqWr9qpaR_J2N_N5ZG-F7bz-Wco
4	Plants growth and development	https://drive.google.com/open?id=1_HSiqbnqcbvqhA2O35KGNvvcrd2XHC
5	Photorespiration	https://drive.google.com/open?id=16RX-zXkbYfOocIrwVyWgR8x5pFw7tVOn
6	Photoperiodism	https://drive.google.com/open?id=16RX-zXkbYfOocIrwVyWgR8x5pFw7tVOn
7	Flowering in Plants	https://drive.google.com/open?id=1FeqAkkn2B9S8_kji1M0oGd3QOrtuMzCc
8	Cyanide resistant respiration and significance	https://drive.google.com/open?id=1RbOwcWgmkh6m6wEf9EAFE4BYQv1xdLgu
9	Control and Coordination in plants	https://drive.google.com/open?id=1U9az7k2mfjQHOUmsdae1MZdpPHKzX2NP
BT-209-ENZYME AND ENZYME TECHNOLOGY		
1	Enzyme immobilization	https://drive.google.com/open?id=1ekxZP-ZF8NPzRrBehG-lpQgpQStSMlqN
2	Production of Enzymes	https://drive.google.com/open?id=1feLJua-6HCGrG7_ZF9IuY9YuMB08lq4
3	Large scale production of enzymes	http://www.biologydiscussion.com/enzymes/enzyme-technology/enzyme-technology-application-and-commercial-production-of-enzymes/10185
4	Purification of Enzymes	https://drive.google.com/open?id=1W3dDhtyFMlYbpKgK3AT7mwCvDbBe96tI
5	Enzyme and their action	https://drive.google.com/open?id=1apwNO8yr9VQ-IHW0c4UN04IPxNr5RJs8
6	Enzyme Kinetics	https://drive.google.com/open?id=17N8mNF8SQAqWC2-N9N6f_G03a6EJnCK
7	Enzyme Inhibition	https://drive.google.com/open?id=1WYh44Z7m9qN_gRpznzsuwPPE4FAI8fTY
8	Application of enzymes in various fields.	https://drive.google.com/open?id=1XB215zxjbdENT72ixud2vnftu75O8kD
9	Cofactors and Coenzymes	https://chem.libretexts.org/Bookshelves/Biological_Chemistry/Supplemental_Modules_(Biological_Chemistry)/Vitamins%2C_Cofactors_and_Coenzymes

HARLAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY		
DEPARTMENT OF BIOTECHNOLOGY		
E-Content M.Sc (Second Semester)		
S.No	TOPIC	LINK
M-201- FUNDAMENTALS OF BIOCHEMISTRY		
1	Krebs Cycle	https://courses.lumenlearning.com/boundless-microbiology/chapter/the-citric-acid-krebs-cycle/
2	ETS	https://courses.lumenlearning.com/wm-biology1/chapter/reading-electron-transport-chain/
3	Oxidative phosphorylation	https://www.ncbi.nlm.nih.gov/books/NBK21208/
4	Substrate level phosphorylation	https://bio.libretexts.org/Bookshelves/Biochemistry/Book%3A_Biochemistry_Free_and_Easy_(Ahern_and_Rajagopal)/02%3A_Energy/2.06%3A_Cellular_Phosphorylations
5	Protein folding	https://www.ncbi.nlm.nih.gov/books/NBK9843/#A1200
6	Protein sequencing	https://www.slideshare.net/mobile/ArunimaSur/sequencing-of-protein
7	Glycolysis	https://microbiologyinfo.com/glycolysis-10-steps-explained-steps-by-steps-with-diagram/
8	Enzymes: Introduction	https://drive.google.com/open?id=1Ra6CK2Cu2kv01HNq9tc782AP9wvTno8v
9	Enzymes: Mechanisms of enzyme action	https://www.britannica.com/science/protein/The-mechanism-of-enzymatic-action
10	Enzymes: Assay Types	https://drive.google.com/open?id=1zm_UUZx1IpuWkMQOEzbL2ffo9UCtJs66
11	Enzyme Kinetics	https://drive.google.com/open?id=1gHAW80I702LuiG1qa1jBXN5R40OIL04Y
12	coenzymes and vitamins	https://drive.google.com/open?id=1GDffnRQShFP-uMirD_IJhS1qI9J2uO-
13	Isoenzymes	https://drive.google.com/open?id=1-gjUYzF46zbHZwdeZ_WUwlaBMPiR_KID
14	Allosteric Enzymes	https://alevelchemistry.co.uk/definition/allosteric-enzymes/
15	Extremozymes	https://drive.google.com/open?id=1jHEyRQb6Qe0tk4R9e-H0Z_I9W1JSJlwS
16	Anaplerotic Pathways	https://drive.google.com/open?id=1RB-BQO2o9FSAkCNsjj5j57lgWK4W9npG
17	Porphyrin	https://biologydictionary.net/porphyrin/
18	Alkaloids	http://www.biologydiscussion.com/metabolism/secondary-metabolites-alkaloids-and-dioscorea/12249
19	Hormones	https://drive.google.com/open?id=1dPIA7Ls8kDP5B5EAzRRaH8WUXx9wb7Kt
20	Biosynthesis of fatty acids and Catabolism of fatty acids	https://drive.google.com/open?id=10qSrIA9V55_cPje-ZMhO2kNE-vx2QMM
21	Nucleotides	https://drive.google.com/open?id=1VuffHtjd18AZHYmKlrcMTVhbe9Xa5Sk
M-202- PLANT GENETIC RESOURCES: CONSERVATION AND SUSTAINABLE USE		
1	Evolution of crops	https://drive.google.com/open?id=1dr4eMTZWexiDQx4y8sCXbNrk8ulcFsIm
2	Species Content	https://drive.google.com/open?id=1u34TcKdNp7lXwHucWAdyW2y9TihDVBof
3	NBPGR at a glance	https://drive.google.com/open?id=1_KI73xctPierzyZY7OLCNX5-QBg4qTd7
4	Role of NBPGR in PGR management	https://drive.google.com/open?id=1gBWrlpOixtpupKNNSMXG6fb6h87VpuXd
5	Post zygotic barrier	https://drive.google.com/open?id=1m0SbhVFmmkjAG8qawM4P7CYIFAQsxhY9
6	IPGRI	https://drive.google.com/open?id=1KaMTinYn8U-ACwY1UWoKUMybJW-0rgFc
7	Cryopreservation	https://drive.google.com/open?id=18QF5YXIRhRHQ0F9p6UkW6v_0F7I1G0-
8	Centre of origin	https://drive.google.com/open?id=1hksexy4cN0k9-ap61AHfMH3iB1wAck_w
9	Biodiversity and Genetic Resources	https://drive.google.com/open?id=1zohBW76Vl_zsxMVUvoycH-cFAvpcv7ap
10	FAO	https://drive.google.com/open?id=1Pex_39ISBpit-hvVn-njME6sXK_tuw51
M-203- BIOTECHNOLOGY IN CROP IMPROVEMENT		
1	GM Crops-legislative perception	https://drive.google.com/open?id=1wim0XhBv1l3NkUVws1w09aE121kyr7yW
2	Haploid production from anther culture	https://drive.google.com/open?id=1ExBU0ORU7BP-tAvW3HZwtgQv42Sha_gq
3	Micropropagation and its uses	https://drive.google.com/open?id=1iwTihiYT1pc1TVwtzNEMQV5tTLRz1wSE
4	Phaseolin	https://drive.google.com/open?id=1GdTLwCnCdvNBCOHUpLjpmnEn6HzOihly
5	Physical and mechanical methods of gene transfer	https://drive.google.com/open?id=1OeduO6Mv3q-X5KBdni1uqkKEWMUBzJf
6	Seed Storage proteins	https://drive.google.com/open?id=1ey_t17jaXyxApyMbYDr-CK8-T1jKKzb
7	Somatic hybridization	https://drive.google.com/open?id=1vxH2H2h66jkXv1LFoVaLhCjsHcE8fEnA
8	GM impact on agriculture	https://drive.google.com/open?id=1K6YGJMyVM-kccyA8t_RSJaRcXCmruYHj
9	Insecticide resistant GM crops	https://drive.google.com/open?id=1VBM_vs9GcAOH9smVoGdu7h8uanF7mCLW
10	Herbicide resistant GM crops	https://drive.google.com/open?id=1oRkBSPhlv7OXR5SzMPuHVjL4-tpVQRXf
11	Transgenic Plants	https://drive.google.com/open?id=1InkxZEq2cYzbDC1Bu-awtwh3eicw1a14
12	Seed crops Genetic Engineering	https://drive.google.com/open?id=1an-sQPqluj412RPe4L4ZefmQsVbBVh4

13	Designer Proteins	https://drive.google.com/open?id=1crOOwg_Cnf1HtFeXgAcwaTJci_rGePl
14	Artificial Seeds	https://drive.google.com/open?id=1yAVriaODSjqn66OnxrTBbKkV1fMif2yx
15	Biosafety issues-Transgenic crops	https://drive.google.com/open?id=1bhzuaTjBBXqVKmDNxMw-9-RbEHYraMKC
16	Somatic hybridization-applicaion	https://drive.google.com/open?id=1c1rRLSgnzmX8Wyb_fxYJf7axG8MJQOMY
17	Direct DNA delivery	https://drive.google.com/open?id=1_-11c-APWw7UDxUiVDzmL8ADi7vqKn0B
18	Legumin	https://drive.google.com/open?id=1GtZVMyvHoc7q3_e7EmuvhEeQeN45o8HA
19	Glycinin and conglycinin	https://drive.google.com/open?id=17_h8ooG6JaVn73piQjI2q_OYUP1XBanY
M-204- RECOMBINANT DNA TECHNOLOGY		
1	Southern blotting	https://drive.google.com/open?id=1NKKYS3lanC_-wXm0hl2TaAaJEjRpKcPN
2	Nothern blotting	https://drive.google.com/open?id=1u2deVoD_2qfuS17Ok2HM2t4q6b7VgVAF
3	Sequencing	https://drive.google.com/open?id=1BSgV1mEgE-CcuWizOncevX5ro5ug2hoq
4	PCR	https://drive.google.com/open?id=1-hl5GGmYOISvK7gCbRAE9B6Z5r6HT-K6
5	Mammalian Artificial Chromosome	https://drive.google.com/open?id=1sl4U8hNKVck-72MKLYTmRxZmMmtx-TPr
6	Expression Vector	https://drive.google.com/open?id=1QRWalwXq-gQq3kb0p5t1nDI9Y5JaKZ9a
7	Chromosome jumping	https://drive.google.com/open?id=1_jZvGgqK_2i9pgF-kikpfAl-97rxcCYL
8	Binary vector	https://drive.google.com/open?id=1n2C565FEJF4zVRLF4rXOOJeLdGoQUzyi
9	Text Book (Gene Clonning TA Brown)	https://drive.google.com/open?id=1ngpwD_x1HWAkoGC1g9UIX00dKPNiBOJN