

Department of MICROBIOLOGY, Dnyanopasak College, brings you University level full time Lectures for BSc. Graduates in Microbiology and allied subjects.

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Dnyanopasak Microbiology

http://www.youtube.com/channel/UCk0bz3MGrv_COImDtZchwFA

CLICK IN THE RELATED LINK FOR LECTURES

UNIT 01 GENE EXPRESSION

01 CHARACTERISTICS OF GENETIC CODE

<https://youtu.be/380qVhUEcRE>

02 RNA POLYMERASE STRUCTURE AND FUNCTION

<https://youtu.be/19b22l-s8Gg>

03 PROKARYOTIC TRANSCRIPTION (mRNA SYNTHESIS)

<https://youtu.be/l6nsttxf0Yg>

04 STRUCTURE OF RIBOSOME

<https://youtu.be/XeDQyMot3YU>

05 TRANSLATION Part 01 t-RNA

<https://youtu.be/duCiC4cN2C4>

06 TRANSLATION Part 02 Protein Synthesis

<https://youtu.be/ypgXt1edZNo>

07 COUPLED TRANSCRIPTION TRANSLATION BACTERIA

<https://youtu.be/Rik-Nhmq3xw>

UNIT 02 MUTAGENESIS AND DNA REPAIR

01 CONCEPT OF MUTATION IN PROKARYOTES

<https://youtu.be/55rM7ghCFq0>

02 TYPES OF MUTATIONS IN PROKARYOTES

<https://youtu.be/ak6ggkK08Js>

03 MOLECULAR MECHANISMS OF SPONTANEOUS MUTATIONS

https://youtu.be/-p_QS-5EOlc

04 MOLECULAR MECHANISMS OF INDUCED MUTATIONS

<https://youtu.be/tu9hjRsdmsQ>

05 DNA REPAIR INTRODUCTION AND HISTORY

<https://youtu.be/0IKiTxnEsvk>

06 REPAIR OF DAMAGED DNA BY PHOTOREACTIVATION

<https://youtu.be/QLEf-yLS318>

07 DNA DAMAGE AND REPAIR BY NER AND BER

<https://youtu.be/WaJelec0m2l>

08 METHYL MISMATCH DNA REPAIR SYSTEM (MMR)

https://youtu.be/LunYsRO8t_g

UNIT 03 REGULATION OF GENE EXPRESSION IN PROKARYOTES

01 CONCEPT OF GENE, OPERON AND REGULATION

<https://youtu.be/tk6TBb5S3cl>

02 THE LAC OPERON IN *E. COLI*

https://youtu.be/tuKMPCm_mP4

03 THE TRYPTOPHAN OPERON

<https://youtu.be/ORg5le9LOoA>

04 REGULATION OF GENE EXPRESSION TRANSCRIPTION LEVEL

<https://youtu.be/yRAIpwsoDHY>

05 REGULATION OF GENE EXPRESSION TRANSCRIPTION LEVEL

<https://youtu.be/5sicV8Ci9fM>

UNIT 04 MOLECULAR TECHNIQUES AND APPLICATIONS

(Uploading Soon)

- 01** i. Introduction, Definition and purpose of Cloning
ii. Tools for molecular cloning
- 02** ENZYMES
Restriction endonucleases, DNA ligases, alkaline phosphatase, DNA Modifying enzymes
- 03** VECTORS
i. PLASMIDS- pBR322,
ii. BACTERIOPHAGE- Phage λ , COSMIDS
- 04** METHODS OF GENE TRANSFER
i. Transformation
ii. Electroporation
iii. Liposome Fusion
iv. Transduction
- 05** SCREENING STRATEGIES (In short)
i. Insertional Inactivation
ii. Immunochemical Methods
iii. Colony hybridization
- 06** APPLICATION: Expression of Human insulin gene in *E. coli*

TIPS AND TRICKS FOR BETTER UNDERSTANDING OF VIDEOS:

1. JUST WHEN A NEW SLIDE APPEARS ON THE SCREEN "PAUSE THE VIDEO" AND FULLY READ THE SLIDE
2. AFTER COMPLETELY READING, PLAY THE VIDEO AND NOW "JUST SIMPLY AND PURELY LISTEN"
3. WHILE LISTENING DO NOT READ.
4. WHILE READING DO NOT LISTEN.
5. IT IS RECOMMEND YOU TO LISTEN TO ALL THE LECTURES AND NOTE DOWN YOUR NOTES AND QUERIES IN A NOTEBOOK.
6. WITH QUERRIES ARISING IN YOUR MINDS, IT IS RECOMMENDED THAT FIRST EXPLORE YOUR DOUBTS BY SEARCHING THE INTERNET AND FINDING ANSWERS FOR YOURSELVES.
7. AN ANSWER FOUND BY YOURSELF WILL GIVE YOU MORE KNOWLEDGE. IN YOUR LIFE. DO NOT JUST ASK A QUESTION FOR SAKE OF QUESTIONING
8. HAVE AN URGE TO FIND ANSWERS YOURSELVES, WHEN YOU DO THIS REPEATEDLY AND GET STUCK WITH ONE QUESTION WHICH DOES NOT GIVE YOU ANSWER NO MATTER HOW HARD YOU TRIED - IS THE MOST IMPORTANT QUESTION WHICH YOU CAN ASK YOUR MENTOR. THIS IS HOW YOU LEARN SCIENCE AND THUS PHENOMENONS OF LIFE.
9. DO LEAVE COMMENTS AND FEEDBACK IN THE YOUTUBE SECTION AND TELL YOUR FRIENDS TO WATCH AND LEARN

ALL THE BEST. HAPPY LEARNING.