

Class: B.Sc Ist Year

Semester: II

**Paper Name: Microbiology, Biochemistry,
Biostatistics and Computers**

Topic	URL
I Viruses	
Discovery of viruses	https://www.youtube.com/watch?v=czV7HeO3_VA
Structure of viruses	https://www.youtube.com/watch?v=O1TetEto1Is
Classification of viruses (LHT System)	https://www.youtube.com/watch?v=TnAQfFiWr54
Replication of viruses – Lytic cycle (T4), Lysogeny (Lambda phage)	https://www.youtube.com/watch?v=YAdI7jCaoos
Cultivation of viruses – Embryo culture, Tissue culture method .	https://www.youtube.com/watch?v=m-SmaTPUMcM
Interferon	https://www.youtube.com/watch?v=bpBFQu2tzK0
II Microbial Control	
Definition and Terms- Sterilization, disinfection, Antiseptic, Sanitizer, Germicide, Microbiostasis, Antimicrobial agent.	https://www.youtube.com/watch?v=Gy93a4bc0X8
Mechanism of cell Injury - Damage of cell wall, cell membrane, Inhibition of metabolic reactions.	https://www.youtube.com/watch?v=wTiXAvK47qw
Chemical Control – Chemistry and mode of action of halogens, heavy metals and their derivatives, Alcohols, Detergents and Gaseous Sterilization.	https://www.youtube.com/watch?v=RrYxiwTgKi0
Chemotherapeutic agents.- Definition and mode of action of penicillin , tetracycline, Norfloxacin.	https://www.youtube.com/watch?v=MXlo1R3gdB8
III Applied Aspects of Microorganisms	
Agriculture – Biofertilizers & Biopesticides.	https://www.youtube.com/watch?v=LiddUpk19ew
Human and Animal Health – Antibiotics, Vaccines	https://www.youtube.com/watch?v=NaaG7J6GA8
Industry (Food, Chemical & Pharmaceutical) – List of Microbial products (and producing	https://www.youtube.com/watch?v=949R9zSKibM
Environmental – Biodegradation and Bioleaching.	https://www.youtube.com/watch?v=e1XyQVmuBDs
IV Basic Biochemistry	

Carbohydrates – Classification, different types of Glycosidic linkages eg- Maltose sucrose, Lactose, starch	https://www.youtube.com/watch?v=aJl8XjKbaVo
Lipids – Classification, concept of saturated and unsaturated fatty acids, outline of conjugated & derived lipids	https://www.youtube.com/watch?v=xZdTfhsypjM
Proteins – Classification of Amino acids, concept of peptide bond , elementary concept of protein structure.	https://www.youtube.com/watch?v=FkjilyNaT3M
Nucleic acid – Purine & pyrimidine bases, nucleotides , & nucleosides , structure of DNA, structure of RNA (mRNA , tRNA, rRNA)	https://www.youtube.com/watch?v=0lZRASHqft0
V Biostatistics	
Importance & application – Tabulation & Classification of data, Frequency distribution & graphical distribution of data.	https://www.youtube.com/watch?v=1vQrE9d_RMc
Measures of central tendencies – Mean , Mode, Median & their Properties	https://www.youtube.com/watch?v=dLjp6DrPARK
Co relation & their Linear regression – Coefficient of correlation, linear least square Fit method of regression.	https://www.youtube.com/watch?v=QAEZOhe13Wg
Hypothesis testing- (chi square test) x2 test, t-test	https://www.youtube.com/watch?v=gp5xQHdbwwI
Different models of data presentation with special reference to Biological samples.	https://www.youtube.com/watch?v=lZeb5ZozQmA
VI Computer Concepts	
Components of computer system – Hardware, input devices, CPU, output devices , Monitor, software.	https://www.youtube.com/watch?v=PNHPArcsj9w
Memory concept- Computer memory primary &	https://www.youtube.com/watch?v=grndLJNWRfQ
Window Operating systems :- Introduction graphical user interface systems, desktop menus, launching a program through start menu	https://www.youtube.com/watch?v=WmpHXKuWAlY
MS-Word- creating, saving operating editing, closing a document, entering & editing texts.	https://www.youtube.com/watch?v=mf3pKJmnWJO
Using Internet explorer , MS power point,	https://www.youtube.com/watch?v=s92M8T-Dmsw