

BIOLOGY

Class - 11, Unit-I

1. Life processes

GReat Mother Could Rest

Growth, Reproduction, Metabolism, Cellular Organization, Responsiveness

2. Taxonomic Categories

(i) Donald King Phoenix Chose Olive Fried Greek Salad

Kingdom, Division/Phylum, Class, Order, Family, Genus, Species

(ii) Mneconomics Key Protected Documents, Copies & Folders Got Stolen

Kingdom, Phylum/Division, Class, Family, Genus, Species

S uffixes used for Taxonomic Categories Doctor Came in OPD and Suggested For Sterilisation: Patient Observed At ICU and Operated

Taxonomic category: Suffix used Division: Phyta; Class: Opsida; Order: Ales; Suborder: incae; Family: Aceae; Subfamily: Oidae

4. Taxonomical Aids

Hey Brother, Mom and Me went to Zoological park and Flat Keys Found Missing

Herbarium, Botanical gardens, Monograph Manuals, Zoological parks, Flora, Keys, Fauna, Museums

5. Nomenclature Types

HIS PLEN

Holotype, Isotype, Syntype, Paratype, Lectotype, Epitype and Neotype

6. Characteristics of Living BeingsGENR_{M2}

Growth, Excretion, Nutrition, Reproduction, Responsiveness, Respiration, Movement, Metabolism

7. Some Major Groups of Eubacteria and Characteristics

ACCount Get PRESented

Groups: Key characteristic

Actinomycetes, Chemoautotrophs, Cyanobacteria Gliding bacteria, Pseudomonas, Rickettsias, Enterobacteria, Spirochaetes

8. Types of Arrangement in Bacterial Flagella AMALP: 0122n

Type of Arrangement : Number of Flagella or its characteristic

Atrichous: 0 (absent)

Monotrichous : 1 (single polar flagellum)

Amphitrichous : 2 (one at each end of bacterial

cell)

Lophotrichous: 2 or more

Peritrichous: Numerous distributed over the entire

9. Types of Classification System

American Nuclear Power Plant : Let Both Enganged in Show

Artificial classification system: Linnaeus

Natural classification system : Bentham and Hooker **P**hylogenetic classification system : Engler and

Prantl

Phenetic classification system : Sneath and Sokal 10. Classification of Kingdom Protista

Pineapple Cheese Pineapple : Dragonfruit Starfruit Cranberry

Classification of Protists: Examples

Photosynthetic protist (Plant like protists): Dinoflagellates, Diatoms and Euglenoids

Consumer protists (Animal like protists) : **S**lime moulds or Myxomycetes

Protozoan protists : **C**iliata, Sporozoa, Sarcodina, Zooflagellata

11. Systems of Classification of Organisms

Two Thieves Found Fighting : Car Engine Cooled With water

Two Kingdom classification system : Carlous Linnaeus

Three Kingdom classification system : Ernst Haeckel

Four Kingdom classification system : Copeland Five Kingdom classification system : Whittaker R

12. Classification of Kingdom Fungi

PASsing **By D**am : Looking **So C**alm and **I**nteresting

Phycomycetes: Lower fungi: Rhizopus, Mucor,

Albugo

Ascomycetes: Sac Fungi: Neurospora, Yeast,

Penicillium

Basidiomycetes: Club fungi Agaricus, Ustilago,

Polyporous

Deuteromycetes: **I**mperfecti fungi: Fusarium,

Cercospora, Trichoderma

13. Five Kingdom Classification by Whittaker

Monks Pray For Public's Amity.

Monera, Protista, Fungi, Plantae, Animalia

14. Kingdom Fungi Multicelluar decomposers

Pay And Book Date

Phycomycetes, Ascomycetes, Basidiomycetes, Deuteromycetes

15. Algae

Great Britain Round

Chlorophyceae : Green algae Phaeophyceae : Brown algae Rhodophyceae : Red algae

16. Animal Kingdom Classification

Prince Charle's Cousin
Assorted Plums.

Porifera, Coelenterata, Ctenophora, Aschelminthes, Platyhelminthes,

17. Animal Kingdom Classification

Aunt Molly Asked Edwin to Have Chocolates.

Annelida, Mollusca, Arthropoda, Echinodermata, hemichordata, Chordata.

18. Chordates

Ultra Clean Vehicle

Urochordata or Tunicata, Cephalochordata, Vertebrata

Class - 11, Unit-II

1. Leaf Modification

Total Smoke Production Bolstered Pollution.

Tendril, Spine, Phyllode, Bulb, Pitcher

Placentation

Football Club Barcelona Missed Approach Point.

Free Central, Basal, Marginal, Axile, Parietal,

3. Animal tissues

EMUCON

Epithelial, Muscular, Connective, Nervous

4. Loose Connective Tissue

Are**A**

Areolar and Adipose

5. Dense Connective Tissue

RIer

Regular and Irregular

6. Supportive Connective Tissue

Car**B**on

Cartilage and bone

7. Fluid Connective Tissue

Live **B**oldly

Lymph, blood

8. Muscular

SSC

Smooth, Skeletal, Cardiac

Class - 11, Unit-III

1. Endomembrane system

George Earned Legendary Vehicle.

Golgi apparatus, Endoplasmic reticulum, lysosomes, vacuoles

2. Bacterial Shapes

Battle Construction Vehicle Services

Bacillus, Coccus, Vibrio,

3. Spirillum.

Classifie atilibre Enzymes

Hydrolases, Isomerases, Ligases, Lyases, Oxidoreductases, Transferases

A Primary Metabolites

NASAL

Nucleic acids, sugars, amino acids, lipids

5. Secondar y Metabolites

PATE

Pigments, Alkaloids, Terpenoids, Essential oils

6. Cell Cycle And Mitosis

I Played Myself A Trick

Interphase, Prophase, Metaphase, Anaphase, Telophase

7. Meiosis

Lazy Zebra Portrayed Depiction of Death

Leptotene, Zygotene, Pachytene, Diplotene, Diakinesis

Class - 11, Unit-IV

1. Facilitated Diffusion

USA

Uniport, Symport, Antiport

2. The Fate of Nitrogen

RAT

Reductive amination, Transamination

3. Reductive Amination

Red Algae And Kangaroo Arrived after Green Algae

Alpha-ketoglutaric acid + Ammonia -> Glutamic acid

4. Micronutrient

IZCN Might Classify Mammalian Birds.

Iron, Zinc, copper, nickel, molybdenum, chlorine, manganese, boron

5. Macronutrients

HONorable PM Started PC.

Hydrogen, Oxygen, Nitrogen, Phosphorus, Magnesium, Sulphur, Potassium, calcium.

6. Pigments Involved in Photosynthesis

Charles Also Booked Xan's Car

Chlorphyll a, b, Xanthophyll, Carotenoid

7. C3 or Calvin cycle

Cash Reserve Ratio

Carboxylation; reduction;

8. regeneration Cyclic

GWALLIN PASSACLIA Arabic

Cylic Photophosphorylation PS I, ATP

9. Chlorophyll a

Coronary artery bypass grafting

Chlorophyll a bright or blue green algae: CABG

10. Chlorophyll b

Collage Based Youth Grant

Chlorophyll b yellow green algae: CBYG

11. Proteins Catabolism

PAPA

Protein Amino Acids, Pyruvic Acid, AcetylCoA

12. Glucose Catabolism

ginny Gony Fried Dried Garlic Potato Avocado

Glucose 6-P, Fructose 1,6 BP, Dihydroxy acetone phosphate, Glyceraldehyde 3-phosphate, Pyruvic acid, Acetyl CoA

13. Fats Catabolism

Find Files And Go Away

Fatty Acids, Glycerol, Acetyl CoA

14. Citric Acid Cycle

Account Cheque AKA Service Money Order

Acetyl CoA, Citric acid, Alpha Ketoglutaric Acid, Succinic acid, Malic Acid, OAA

15 Conditions of Growth

Won ONe True Last Game

Water, Oxygen, Nutrients, Temperature, Light, Gravity

16. (a) Photoperiodism

Dedicated **T**o

Day neutral plant - Tomato

(b) Photoperiodism

Supreme Court

Short Day plant- Chrysanthemum

(c) Photoperiodism

Little Red Button

Long Day Plant- Radish, Barley

17. Plant Growth Regulators (Phytohormones)

All Girls Called Executive Assistant Before Assessment

Auxin, Gibberellin, Cytokinin, Ethylene, ABA

Class - 11, Unit-V

1. Salivary Gland

PaSS

Parotid, Sublingual, Submandibular

2. Histology of Alimentary Canal

SMS Me

Serosa, Muscularis, Sub-mucosa, Mucosa

3. Alimentary Parts

MP Of State Sikkim Lost Revenue Account

Mouth, Pharynx, Oesophagus, Stomach, Small intestine, Large Intestine, Rectum, Anus

4. Gastric Glands

Mutual Protection Pact/My Power Point

Mucus neck cell, Peptic cells, Parietal cells

5. GI hormones

Global Education School Called Volunteer Services.

Gastrin, Enterogastrone, Secretin, Cholecystokinin, Villikinin, Stomatostatin

6. Gills

File Transfer Protocol

Fishes, Tadpoles,

7. Prawn Tracheal Tube

Integrated Crop Management

Insects, centipede, millipede

8. Body Sur face

Standard Cubic Feet

Sponges, Coelenterate, Flatworm

9. Plasma

Assume Good Faith

Albumin, Globulin, Fibrinogen

10. Granulocytes

Gram Negative Enteric Bacteria

Granulocytes: Neutrophil, Eosinophil, Basophil

11. Agranulocytes

All Luggage Missing

Agarnulocytes: Lymphocytes, Monocytes

12. Heart valves

Text Book Solutions

Tricuspid valve, Bicuspid valve, Semilunar valve

13. Circulator y Pathways

(a) On A Mission or

(b) Operation And Maintenance

Open: Arthropods, Molluscs

14. Urine Formation

Grand Trunk Road Time Slot

Glomerular filteration, Tubular Reabsorption, Tubular secretion

15. Disorders of the Excretory System

Ultra Rapid Fire Restored Coffee Grouds

Uremia, Renal Failure, Renal Calculi, Glomerulonephritis

16. (a) Modes of Excretion

Urban **M**ass **T**ransport **A**gency

Ureotelism: Mammals, Terrestrial Amphibian

(b) Modes of Excretion

Animals Best Friends Are Always

Ammonia: Bony Fishes, Aquatic Amphibian, Insects

16. (c) Modes of Excretion

User Address Book

Uric Acid: Birds

17. Joints

Skin Cancer Foundation

Synovial, Cartilaginous, Fibrous

18. Synovial (Movable)

Best Soldier Hid Packed Gun System

Ball and Socket, Hinge, Pivot, Gliding, Saddle

19. Axial (80 bones)

Careless Team Learnt Self Care

Cervical, Thoracic, Lumbar, Sacral, Coccygeal

20. Fore Brain

Chance To Hit/ Contract To Hire

Cerebrum, Thalamus, Hypothalamus

21. Hind Brain

(PCM) Physics, Chemistry, Maths

Pons, Cerebellum, Medulla

22. Outer Ear

PET

Pinna, Ear canal, Tympanic membrane

23. Inner Ear

United States Court

Utriculus, Sacculus, Cochlea

24. Pancreas

BIg **AG**ency

Beta Insulin Alpha Glucagon

25. Adrenal Cor tex

American College of Medical

Genetics

Adrenal Cortex: Mineralocorticoids, Glucorticoids

26. Adrenal Medulla

AMAN/ All Missing As Negative

Adrenal Medulla: Adrenaline and Noradrenaline

27. Hormones of Heart, Kidney and

Gastrointestinal Tract

Kerala Real Estate Company

Kidney-Renin, Erythromycin, Calcitriol

Class - 12, Unit-I

1. (a) Vegetative Reproduction

Positive Example Based Learning

Potato-Eyes, Bryophyllum- Leaf

buds (b) Vegetative Reproduction

GRAB

Ginger: Rhizome, Agave:

Bulbil

W **Leg**etative Reproduction

Water hyacinth

2. Offset Formation of

Top Many Fake Acronyms

True Fruit= Mango, False Fruit=Apple

3. (a) Pollination

Weight **G**ain

Wind Pollinated: Grasses

(b) Pollination

World association for Visually Handicapped

Water Pollinated: Vallisneria,

Hydrilla (c) Pollination

Integral Yoga

Insect Pollinated

4. Yucca Dicot embryo

Personal Care Heals Rare Remorse

Plumule, Cotyledon, Hypocotyl, Radicle, Rootcap

5. L.S. of Monocot Embryo

Stem Cell Storage Enable

Regenerative Repair of Cancer.

Scutellum, Coleoptile, Shoot apex, Epiblast, Radicle, Rootcap, Coleorhiza

6. (a) Accessory Ducts in Females

Our United Villages

Oviduct, Uterus, Vagina

(b) Accessory Ducts in Females

Infection And Immunity

Infundibulum, Ampulla,

7. Isthmus External Genitalia in

Mahailes's Light Led Him Crazy

Mons pubis, Labia major, Labia minor, Hymen, Clitoris

8. Accessor y Glands in Males

Simple Play Back / Saint Peters Burg Seminal vesicle , prostate, Bulbourethral

9. gland Accessory Ducts in Males

Revise Via Elementary Volume

Rete testis, vasa efferentia, Epididymis, Vas deferens

10. STDs

Haryana Govt. Heads Girl's School

Hepatitis B, Genital herpes, HIV, Gonorrhoea, Syphilis

11. Bir th Control Methods

Swiss National Bank's Indian Office

Surgical, Natural, Barrier, IUD, Oral contraceptive

12. Barrier Methods

CDC Volunteered Student's Junior Fellowship

Condoms, Diaphragm, Cervical caps, vaults, Spermicidal creams, jellies, foams

13. Chromosomal Disorders

Driver **K**nowledge **T**est

Down's syndrome, Klinefelter,

14. Turner Non-Mendeliam Inheir

I Can Manage Physics

Incomplete dominance, Codiminance, MUltiple alleles, Pleiotropy

15. Genetic Code

Tuesday Night Dinner Club Union

Triplet, Non-ambiguous, Degenerate, Commaless, Universal

Class - 12, Unit-II

Factors Affecting

Grand Mother, Grand Daughter Meet Great Royals Near Society

Gene Migration, Genetic Drift, Mutation, Genetic Recombination, Natural Selection

Class - 12, Unit-III

1. Detection & Diagnosis

Book Reader Club Manager

Biopsy, Radiography, CT,

2. MRI (a) Lymphoid Organs

Profit Before Tax

Primary: Bone marrow,

Thymus (b) Lymphoid Organs

Sea Surface Level Temperature

Secondary : Spleen, Lymph node, Tonsils

3. Type of Non-communicable or Non-Infectious Diseases

3A 2M HD

Allergic diseases, Addition disorders

Ageing disorders, Mental illness

Malfunctioning of Organs, Hormonal diseases

Deficiency diseases

4. Types of Hepatitis

ABCDE : Example Shows No

ConsideratioN: RD 3R

Type of virus: Common name: Characters
Hepatitis A: Epidemic hepatitis: SS RNA
Hepatitis B: Serum hepatitis: Ds DNA

Hepatitis C: Non-A, Non-B, Transfusion Hepatitis

: SSRNA, enveloped

Hepatitis ${\bf D}$: Co-infection Hepatitis : SS ${\bf R}$ NA

Hepatitis ${\bf E}:{\bf N}$ on-A, Non-B, Transfusion Hepatitis :

SS RNA, non-enveloped

5. Short forms of National programmes to eradicate major communicable diseases

CC LC FC ME SE

National Cholera Control Programme (NCCP)
National Leprosy Control Programme (NLCP)
National Filaria Control Programme (NLCP)
National Malaria Eradication Programme (NMEP)
National Smallpox Eradication Programme (NSEP)

6. Types of Immunoglobulins

GAMED: Chess Soccer Cricket

Hockey Basketball

Type of Immunoglobulin: Function

Immunoglobulin G: Stimulation of Complement

system and Phagocytic reactions

Immunoglobulin A : In Sero-mucous secretion for

Inhibition of various Infections

Immunoglobulin **M** : Activation of **C**omplement

system

Immunoglobulin **E**: Hypersensitivity reactions

Immunoglobulin **D** : Activation of **B** cells Antibody

secretion

7. (a) Fisheries

Fresh Civil Right Center

Freshwater fishes- Catla, Rohu, common carp

(b) Fisheries

Marked High Speed Machine

Marine fishes - Hilsa, Sardines, Mackerel,

Class - 12, Unit-IV

1. Enzymes Used in Biotechnology

LILY Rose Scent : Rose Daisy Carnation Sunflower

Enzymes: Uses

DNA Ligase : DNA **R**epair enzyme

Lyases : Dissolve cell wall

Restriction enzymes : Cleaves DNA Synthetase : In-vitro DNA Synthesis

2. Important Tools in Biotechnology

HEL3G: 40 VGGRH

Tools: Characters

Heat Shock : Sudden temperature raised to 40°C

Electroporation: High voltage pulse Liposomes: Genes to cells in vivo

Gene gun : Gold particles Genetic marker : R plasmid

Gene synthesis: Hormone somatostatin

3. Animal Clones

NDN: GSG: India Scotland USA

Clone name: Species: Developed by

Noori: Pashmina Goat: Veterinary Science,

Kashmir, India

Dolly: **S**heep: Wilmut and Kampbell, Roslin

institute, Scotland

Noah: Asian Gaur (endangered species): 2002

ACT researchers, USA

4. Scientists to Remember

Please, Come Here SMith: GAMED

Scientist: About

Paul Berg : Father of Genetic Engineering

Cohen and Boyer : First to isolate **A**ntibiotic

resistant gene

Hans Spemann : Father of Modern embryology
Smith and Nathans: First to isolate Endonucleases

Michelson: First to synthesize Dinucleotide

Class - 12, Unit-V

Achievement through Transgenic crops or GM crops

Please Get Biology Notes : How Chemistry Take Flex

Achievement of : Example **P**rotein of interest : **H**irudin

Production of desired **g**enotype : **C**ry protein (crystal protein) Modification of existing **b**iosynthetic pathway : **T**ransgenic rice (higher

content of vitamin A)

Masking of expression of native gene: Flavr savr Tomato

Biological Weapon Agents She Added Questions But

Encouraged To Practice Hard

Smallpox, Anthrax, Q-fever, Botulinum, Encephalitis, Tularemia, Plague, Haemorrhagic fever

3. Gene Inser ted in Transgenic **Animals** and Stein Grossits ing! Come Prepare Food : IX Tofu Left Broken and Heated: Hot Tomato Chilli Paste Mashed

Transgenic animal: Gene inserted: Benefits 1. Sheep: Anti-haemophilic factor IX: Treat **h**aemophilic patient

2. Goat: TPA gene (blood clot dissolving): Treat coronary thrombosis

3. Cow: Lactoferrin: Treat cystic fibrosis

4. **P**igs: **b**GH (bovine growth hormone):

Production of leaner pork

5. Fish: hGH (human growth hormone): Increased meat production

4. Shape of Pyramid: Population growth type

Three Books Used: Eric Stop **D**aydreaming

Triangular shaped: Expanding or Growing

Bell shaped: Stable Urn shaped: Declining

Population Interaction 5.

Competition Always Muffle Politics: Rivalry Has Fabulous Benefits

Type of interaction: Relationship

Competition: Rivalry Antagonism : Harmful

Mutualism: Favourable but not Obligatory Proto-cooperation: Beneficial to both

Classification of organisms into four 6. temperature groups

3MH: TSTA

Group of Organisms: Temperature zone

Megatherms: Tropical zones Mesotherms: Sub-tropical zones Microtherms: Temperate Zones Hekistotherms: Artic zones

7. Some Important Laws to Remember

3/2 BAG: Population density of Birds and Mammals in Cooler Area is **A**bundant

3/2 thinning law: Aspects of growth of population are density related

Bergman's law: Birds and mammals of colder areas are larger in size

Allen's law: Animals in cooler areas have shorter extremities

Gloger's law: Abundance of melanin pigment in animals from hot areas

Measurement of Productivity and Related 8. **Ecosystem**

HALL: Come On And Grab Desert: 210.2<0.2

Ecosystem : Example : Net productivity (kg/m2/yr) High productive ecosystem: Coral reef /Ocean/

tropical forest: 2-4

Average productive ecosystem: Agricultural

crops : 1-2

Less productive ecosystem: Grassland

Steps in General Process of Succession 9.

Night Candle Rays Shined: Desert/Deep Mudation Invasion, Competition, Reaction, **S**tabilisation

10.Nitrogen Cycle Processes

Among Ninety Denominators Nine fixed: ONAM FOR RED ATNAM

Steps: Conversion

1 Ammonification: Organic N to ammonia

2 Nitrification: Formation of nitrites and nitrates

3 Denitrification: Reduction of nitrates 4 Nitrogen fixation: Atmospheric Nitrogen to

ammonia