


BIOLOGY MNEMONICS FOR NEET

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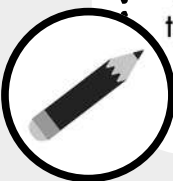


WHAT IS A MNEMONIC?

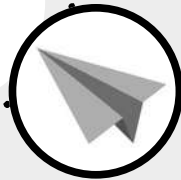
A Mnemonic is an easy learning trick to memorise something complex.




Mnemonics help you to remember concepts for a long time.




During your exam, these Mnemonics will prove very useful to recollect concepts quickly and easily.



This is one more cognitive learning tool that fulfils our aim of 'making learning simple' for you.



Each unit is picked from your syllabus. A concept is identified from it and relevant Mnemonics are developed for it by the "Oswaal Editorial Board".



Descriptions are also provided for each Mnemonic for clarity.



M. N. E. M. O. N. I. C.

Making a Nice and Easy, Memorable, Optical 'N' Illustrative representation of Concepts

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

3. Suffixes used for Taxonomic Categories

Doctor Came in OPD and Suggested For Sterilisation : Patient Observed At ICU and Operated

Taxonomic category: Suffix used
Division : Phyta; **C**lass : Opsida;
Orders : Ales; **S**uborder : incae;
Family : Aceae; **S**ubfamily : Oidae

4. Taxonomical Aids

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

Herbarium, **B**otanical gardens, **M**onograph
Manuals, **Z**oological parks, **F**lora, **K**ey, **F**auna,
Museums

5. Nomenclature Types

HIS PLEN

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

6. Characteristics of Living Beings

GENR₃M₂

Growth, **E**xcretion, **N**utrition, **R**eproduction,
Responsiveness, **R**espiration, **M**ovement,
Metabolism

7. Some Major Groups of Eubacteria and Characteristics

ACCcount 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 cell

9. Types of Classification System

American Nuclear Power Plant : Let Both Enganged in Show

Artificial classification system: Linnaeus

Natural classification system : Bentham and Hooker
Phylogenetic 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 H

12. Classification of Kingdom Fungi



PASSing By Dam : Looking So Calm and Interesting

Phycomycetes : Lower fungi : *Rhizopus, Mucor, Albugo*

Ascomycetes : Sac Fungi : *Neurospora, Yeast, Penicillium*

Basidiomycetes : Club fungi *Agaricus, Ustilago, Polyporous*

Deuteromycetes : Imperfecti fungi : *Fusarium, Cercospora, Trichoderma*

13. Five Kingdom Classification by Whittaker



Monks Pray For Public's Amity.

Monera, Protista, Fungi, Plantae, Animalia

14. Kingdom Fungi Multicellular 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.

Tendrils, Spines, Phyllodes, Bulbs, Pitchers

2. 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



AreA

Areolar and Adipose

5. Dense Connective Tissue



RIer

Regular and Irregular

6. Supportive Connective Tissue



CarBon

Cartilage and bone

7. Fluid Connective Tissue



Live Boldly

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.

Hill-Of-Tibet Classification of Enzymes

Hydrolases, Isomerases, Ligases,
Lyases, Oxidoreductases, Transferases

4. Primary Metabolites

NASAL

Nucleic acids, sugars, amino acids, lipids

5. Secondary 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

Chlorophyll a, b, Xanthophyll, Carotenoid

7. C3 or Calvin cycle

Cash Reserve Ratio

Carboxylation; reduction;

8. regeneration

Cyclic

Cyprus Passed In Arabic Photophosphorylation

Cyclic 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 To

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 Surface



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

Agranulocytes : Lymphocytes, Monocytes

12. Heart valves



Text Book Solutions

Tricuspid valve, Bicuspid valve, Semilunar valve

13. Circulatory Pathways



(a) On A Mission or

(b) Operation And Maintenance

Open: Arthropods, Molluscs

14. Urine Formation**Grand Trunk Road Time Slot**

Glomerular filtration, 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 Mass Transport Agency**

Ureotelism: Mammals, Terrestrial Amphibian

(b) Modes of Excretion**Animals Best Friends Are Always Ideal**

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 Agency**

Beta Insulin Alpha Glucagon

25. Adrenal Cortex**American College of Medical Genetics**

Adrenal Cortex: Mineralocorticoids, Glucocorticoids

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

WHO (c) Vegetative Reproduction

Water hyacinth :

2. Offset Formation of**Too Many Fake Acronyms**

True Fruit= Mango, False Fruit=Apple

3. (a) Pollination**Weight Gain**

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



Female's Light Led Him Crazy

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

8. Accessory 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. Birth 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 Knowledge Test

Down's syndrome, Klinefelter,

14. Turner Non-Mendelian Inheritance



I Can Manage Physics

Incomplete dominance, Codominance, 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 **D** : Co-infection Hepatitis : SS RNA

Hepatitis **E** : Non-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 **C**holera **C**ontrol Programme (NCCP)

National **L**eprosy **C**ontrol Programme (NLCP)

National **F**ilaria **C**ontrol Programme (NLCP)

National **M**alaria **E**radication Programme (NMEP)

National **S**mallpox **E**radication 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 Complement 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 Repair 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 : Sheep : 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 Antibiotic resistant gene

Hans Spemann : Father of Modern embryology

Smith and Nathans: First to isolate Endonucleases

Michelson: First to synthesize Dinucleotide

Class - 12, Unit-V

1. Achievement through Transgenic crops or GM crops



Please Get Biology Notes : How Chemistry Take Flex

Achievement of : Example

Protein of interest : *Hirudin*

Production of desired genotype : Cry protein (crystal protein) Modification of existing biosynthetic pathway : Transgenic rice (higher content of vitamin A)

Masking of expression of native gene : Flavr savr Tomato

2. Biological Weapon Agents

She Added Questions But Encouraged To Practice Hard

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

3. Gene Inserted in Transgenic Animals and Their Benefits

Step Crossing! 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 haemophilic patient
2. **Goat** : **TPA** gene (blood clot dissolving) : Treat coronary thrombosis
3. **Cow** : **Lactoferrin** : Treat cystic fibrosis
4. **Pigs** : **bGH** (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 Daydreaming

Triangular shaped : Expanding or Growing

Bell shaped: Stable

Urn shaped: Declining

5. Population Interaction

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**

6. Classification of organisms into four temperature groups

3MH : TSTA

Group of Organisms : Temperature zone

Megatherms : **Tropical zones**

Mesotherms : **Sub-tropical zones**

Microtherms : **Temperate Zones**

Hekistotherms : **Arctic zones**

7. Some Important Laws to Remember

3/2 BAG : Population density of Birds and Mammals in Cooler Area is Abundant

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

8. Measurement of Productivity and Related 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**

9. Steps in General Process of Succession

Night Candle Rays Shined

Least or Low productive ecosystem : **Desert/Deep**

Nudation, Invasion, Competition, Reaction,

Stabilisation

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