

### Chapter # 01 (Gaseous Exchange)

#### "Short Question"

- i. Describe the mechanism of closing and opening of stomata
- ii. Describe any 3 respiratory disorders.
- iii. Describe the following terms
- iv. Anaerobic respiration and Aerobic respiration.
- v. Oxygen debt
- vi. Artificial ventilator
- vii. Differentiate between  
(a) Photosynthesis and respiration                      (b) Inspiration and Expiration

#### "Descriptive Question"

- i. Describe human respiratory system with diagram.

### Chapter # 02 (Homeostatic)

#### "Short Questions"

- i. Describe the characteristic of plant on the basis of osmoregulation  
i. Hydrophytes            ii. Halophytes            iii. Xerophytes            iv. Mesophytes
- ii. Describe urinary system in man with diagram
- iii. Define internal structure of kidney with diagram
- iv. Describe the structure of skin with diagram./ Role of skin in thermoregulation.
- v. Define the following terms  
i. Transpiration            ii. Guttation

#### "Long Questions"

- vi. Describe structure and function of Nephron.
- vii. Disorder of Kidney.
- viii. Urine formation.

### Chapter # 03 (Coordination and control)

#### "Short Questions"

- i. What is endocrine system? Discuss the gland involved in regulation of blood glucose and how?  
Or Pituitary gland
- ii. Write down the disorder of nervous system
- iii. Difference between chemical and Nervous coordination
- iv. Define the following:  
Coordination, Stimulus, Receptor effector and response.  
Reflex action and reflex arc

#### "Descriptive Questions"

- i. Describe structure of human Brain
- ii. Describe the structure of human skin and Eye or Ear with diagram.

### Chapter# 04 (Support and Movement)

#### "Short Question"

- i. Define skeleton what are its function and its types
- ii. How many groups are human bones categorized into
- iii. Define joint how many types of joint are there?
- iv. Describe muscles and their kinds
- v. Write down the difference between

- i. Cartilage and Bones                      ii. Ligaments and tendons
- Tactic movement and Trophic Movement
- vi. Describe disorder of skeleton

**“Descriptive Question”**

- i. Describe the flexion and extension in human arm
- ii. Explain disorders of bones and their causes

**Chapter # 05 (Re Production)**

**“Short Question”**

- i. Draw neat and labeled diagram of T.S of Angiospermic flower.
- ii. Draw neat and labeled diagram of Ovule.
- iii. What are STD's?
- iv. Draw life cycle of Angiospermic plant.
- v. Distinguish between:  
Sexual and Asexual Reproduction, Epigial and Hypogial germination, External & Internal fertilization.

**“Descriptive Question”**

- i. Describe pollination and its types define the adaptation in the structure of wind pollinated and insect pollinated flower.
- ii. Describe the process of gametogenesis in a rabbit and also describe the male and female reproductive organ of rabbits in tabular forms
- iii. Describe different types of asexual reproduction in animals.
- iv. Describe natural asexual reproduction in plants.
- v. What is germination? Give the condition of germination also describe the methods of different.

**Chapter # 06 (Inheritance)**

**“Short Question”**

- i. Describe the brief structure of DNA what is the central dogma of protein synthesis by a gene? Describe its steps.
- ii. Define variation and different types of variation and causes.
- iii. Describe Mendel's law of complete dominance.
- iv. Explain multiple alleles with an example.
- v. Define the following terms:
 

i. Heredity	ii. Genetics	iii. Inheritance	iv. Gene locus
v. Alleles	vi. DNA replication	vii. Rh blood type	viii. Antibodies
ix. Evolution	x. Co-Dominance	xi. Natural selection	xii. Artificial selection

**“Descriptive Question”**

- i. Describe Mendel's law of segregation and law of independent assortment.
- ii. Explain the theory of natural selection or Darwinism in detail.

**Chapter # 07 (Man and Environment)**

**“Short Question”**

- i. Describe the energy flow in an ecosystem as a non-cyclic process.
- ii. What are ecological pyramids?
- iii. Describe symbiosis and its types
- iv. Define the following;
 

i. Food chain	ii. Food web	iii. Competition	iv. Predation
v. Ecological balance	vi. Deforestation		

**“Descriptive Question”**

- i. Describe the Abiotic and Biotic components of the ecosystem.
- ii. Define pollution? Its types, Causes, effects, and its control.  
Write down a short notes;
 

i. Conservation of nature	ii. Acid rain	iii. Global warming	iv. Urbanization
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v. Ecological balance

vi. Nitrogen cycle

vii. Algal bloom

viii. Carbon – Oxygen Cycle

### **Chapter #08 (Biotechnology)**

#### **“Short Question”**

- i. Define Biotechnology? What are the scope and importance of Bio technology?
- ii. Describe the type of fermentation its application and products also.
- iii. Describe genetic engineering tools.

#### **“Descriptive Question”**

- i. Write down achievement of genetic engineering.

### **Chapter# 09 (Pharmacology)**

#### **“Short Question”**

- i. What are the side effect of antibiotic and its uses also?
- ii. Why Antibiotic are not effective against viral infection?
- iii. How do bacteria produce antibiotic resistance?

#### **“Descriptive Question”**

- i. How can you define drugs and their types also its sources and problems associated with drugs addiction?
- ii. Describe the made of vaccination with the help of diagram.
- iii. Define addiction drugs and describe their major categories.



# ADAMJEE COACHING CENTRE

Comprehensive Examination 2025-26

Biology - II For X

Max. Marks 60

Time: 03 Hours

Section "A" Multiple Choice Questions (MCQs)

- Note: (i) Attempt all the questions from this section.  
(ii) Do not copy down the part questions. Write only the answer against the proper number of the question and its part according to the question paper.  
(iii) Each question carries 01 mark.

Q. 1 Choose the correct answer for each from the given options.

i. Inspiration involves:

- (\*) contraction of intercostals muscles      (\*) contraction of diaphragm  
(\*) inward movement of ribs      (\*) both a and b

ii. Which of the following disorder is associated with inflammation of air passage way

- (\*) bronchitis      (\*) lung cancer      (\*) Asthma      (\*) Emphysema

iii. The Kidney is enclosed in a membrane called

- (\*) Pericardium      (\*) Peritoneum      (\*) Pleural membrane      (\*) Plummule

iv. The hormone ADH release from

- (\*) Pituitary gland      (\*) kidney      (\*) Liver      (\*) lungs

v. The part of brain involved in reasoning is:

- (\*) fore brain      (\*) Cerebrum      (\*) cortex      (\*) frontal lobe

vi. The cartilage are made up of cells called

- (\*) osteoclasts      (\*) osteocytes      (\*) chondrocytes      (\*) chaonocytes

vii. The female gametes are fertilized in the very end of

- (\*) oviduct      (\*) fallopian tube      (\*) ovaries      (\*) both a and b

viii. The way by which gene transmits characters from parents to offspring is

- (\*) genetics      (\*) inheritance      (\*) heredity      (\*) allele

ix. It is always at the beginning of a food chain

- (\*) herbivores      (\*) Carnivores      (\*) decomposers      (\*) producers

x. Extra circular DNA which use as vector of gene is

- (\*) genome      (\*) Plasmid      (\*) Ligase      (\*) RNA

xi. The type of lens in our eye is:

- (\*) Convex      (\*) Concave      (\*) Concave & Convex      (\*) None of these

xii. The frame work which gives shape to any structure called:

- (\*) Muscles      (\*) Bone      (\*) Cartilage      (\*) Skeleton



# ADAMJEE COACHING CENTRE

## Comprehensive Examination 2025-26

### Biology-II For X

#### Section "B" (Short - Answer Questions) 24 Marks

Note. Attempt any Eight (08) questions from this section. All questions carry equal marks.

Q.2 Why smoking is dangerous? How it is related with respiratory disorder.

Q.3 Write down the difference between transpiration and guttation.

Q.4 Draw a neat and labelled diagram of Eye. OR Ear.

Q.5 Describe variation and explain any two causes of it.

Q.6 Write down three uses of Genetic engineering.

Q.7 Discuss different methods of asexual reproduction in animals.

Q.8 What is pyramid of numbers?

Q.9 Describe briefly the structure of DNA according to the Watson and Crick model.

Q.10 Why the stomata generally open during daytime?

Q.11 Describe structure of kidney.

Q.12 Draw a neat and labelled diagram of Ovule.

Q.13 Write down differences between external and internal fertilization.

#### Section "C" (Descriptive Answer Question) 24 Marks

NOTE: Attempt any FOUR (04) questions from this section. Each questions carries (Six) 06 marks.

Q.14 Discuss human respiratory system in detailed.

Q.15 Describe the urinary system in men with diagram.

Q.16 Describe the theory of Natural selection (Darwinism)

Q.17 Define Pollination and its types. Write down importance of Pollination.

Q.18 Describe structure and function of nephron.

Q.19 Define endocrine system. Write down name of three endocrine glands with one of each secretion.



# PRACTICAL CENTRE

B-14, Block# 1, Gulshan-e-Iqbal, Karachi, Phone: 34976530-34812547-34984762

## Comprehensive Examination - 2026

(According to the syllabus of the Board of Secondary Education, Karachi)

Time: 3 Hours

### BIOLOGY (X)

Max. Marks: 60

- Note: Section 'A': It consists of 12 Multiple choice questions (MCQs) and all of these are to be answered.  
Section 'B': It consists of 13 short answer questions of which 08 questions are to be answered.  
Section 'C': It comprises 06 Descriptive answer questions of which 04 questions are to be answered.

#### SECTION "A" (COMPULSORY MULTIPLE CHOICE QUESTIONS) (Marks 12)

Note: (i) Attempt all questions.

(ii) Do not copy the questions. Write only the answer against the proper number of question and its part.

(iii) Each question carries ONE mark.

Q.1 Choose the correct answer from the given options:

- i) The medicine used for the treatment of rheumatoid arthritis is obtain from:  
\* Animal \* Minerals \* Plants \* Microorganisms
- ii) Increase in rate of breathing is due to:  
\* Increase CO<sub>2</sub> in blood \* Increase O<sub>2</sub> in blood  
\* Decrease CO<sub>2</sub> in blood \* Decrease O<sub>2</sub> in blood
- iii) The study of complete graph of human genome is called:  
\* PCR \* HGP \* Medicine \* Soma clonal
- iv) Removal of extra liquid water from hydathode is:  
\* Exudation \* Guttation \* Respiration \* Transpiration
- v) The network of blood capillaries present in this layer of skin:  
\* Epidermis \* Dermis \* Hypodermis \* Endodermis
- vi) Softening and weakening of bone in children due to deficiency of vitamin D called:  
\* Osteoporosis \* Rickets \* Osteoarthritis \* Rheumatic arthritis
- vii) Most of the living things use O<sub>2</sub> to produce:  
\* ATP \* Alcohol \* Organic acid \* Ecological pyramid
- viii) The elements in ecosystem recycle through organisms with environment is called:  
\* Chemical cycle \* Food chain \* Food web \* Biogeochemical cycle
- ix) The type of seed production without fusion of male and female gametes is:  
\* Parthenocarp \* Grafting \* Scion \* Apomixes
- x) The hormone ADH release from:  
\* Pituitary gland \* Kidney \* Liver \* Lungs
- xi) The Cold war between the organisms of a community occupying the same habitat is called:  
\* Predation \* Competition \* Mutualism \* Commensalism
- xii) The chemical released from one cell and carried to signal some distant cell through blood are:  
\* Hormone \* Enzyme \* Neuro-transmitter \* All of these

#### SECTION "B" (SHORT-ANSWER QUESTIONS) (Marks 24)

Note: Attempt any Eight Questions. From this section. All question carry equal marks.

Q.2 Differentiate between any one of the following:

- a. Bones and Cartilages                      b. Tropic and Nastic Movement

OR How vaccine works against pathogen explain with the help of diagram? (Only Diagram is required)

OR Describe the function of skeleton.

Q.3 What do you mean by antibiotic resistance?

OR Differentiate between breathing, gaseous exchange and respiration.

OR Define Genetic Engineering.

Q.4 What are the secondary products? How they released from plant body?

OR Describe any three major achievements of genetic engineering.

OR Define excretion. Name the excretory organs and excretory compounds of Planaria, Earthworm, Cockroaches and Vertebrates.

- Q.5 Describe Narcotics and its types.  
OR Draw Food chain and Food Web.  
OR Explain skeleton system is a dynamic system.
- Q.6 Draw a labeled diagram of ball and socket joint.  
OR Why skin consider as an excretory organ?  
OR What is Co-Dominance? Describe statement and ratio of Co-Dominance.
- Q.7 Differentiate between chemical and nervous co-ordination  
OR Why adrenaline called an emergency hormone?  
OR What do you mean by soil pollution? What are the control measures of Soil Pollution?
- Q.8 Draw L.S of Flower or L.S of Ovule.  
OR Give the name and the function of hormones released from anterior lobe of pituitary glands.
- Q.9 Describe the role of lungs in maintaining concentration of  $CO_2$ .  
OR Define the following: (any three)
- |                           |                    |                    |
|---------------------------|--------------------|--------------------|
| a. Homologous chromosomes | b. Multiple Allele | c. Dominant allele |
| d. Heterozygous           | e. Homozygous      | f. Heredity        |
- OR What do you mean by Replication?
- Q.10 What is gametogenesis? Discuss Spermatogenesis in rabbit.  
OR Draw life cycle of a Flowering plant.  
OR Give the name and examples of drugs isolate from different sources.
- Q.11 What are Xerophytes or Hydrophytes?  
OR Describe tissue culture technique.  
OR Give the name and number of bone present in Pelvic girdle.
- Q.12 Describe moveable joints. Give names with example.  
OR What is goiter?  
OR What is paralysis or epilepsy?
- Q.13 Draw labeled diagram of L.S of Kidney.  
OR What are sexually transmitted diseases? Give the name of some diseases.  
OR Draw labeled diagram of structure of Neuron.
- Q.14 Draw Structure of a Pollen grain.  
OR Why sunflower move with the sun?  
OR What is Variation? Write any two causes of Variation.
- Q.15 What is artificial selection? How artificial selection is the evidence of natural selection?  
OR What is Fermentation? What are the types of fermentation? Name the microorganism use for fermentation.  
OR Describe the discovery of Antibiotics or Antiseptic.

**SECTION "C" (DETAILED ANSWER QUESTIONS) (24 Marks)**

Note: Attempt any Four Question from this Section. All question carry equal marks.

- Q.16 Draw and describe human respiratory system.  
OR Explain Nitrogen Cycle.  
OR Draw labeled diagram of Nephron.
- Q.17 What is pollution? Discuss in detail the causes, effects and control of Air Pollution.  
OR State and Explain the Mendel law of Independent Assortment.  
OR Draw male reproductive system of Rabbit.
- Q.18 Describe Arthritis. Its types, causes, treatment and also define the role of obesity in arthritis.  
OR Draw and describe human Eye or Ear.  
OR Describe Asexual reproduction and its types in animals.
- Q.19 Explain with the help of diagram Watson and Crick model of DNA.  
OR Describe Abiotic factors of an Ecosystem.  
OR Draw and describe working of Nephron.
- Q.20 Discuss respiratory disorders with causes and symptoms.  
OR What is Pancreases? How it is related with Diabetes. How diabetes can be control?  
OR State and Explain the Mendel law of Segregation.
- Q.21 Explain the Darwin theory of Natural Selection.  
OR Draw and describe human urinary system.  
OR Define Endocrine glands. Write name and secretions of Thyroid gland and Adrenal glands.



# ADAMJEE COACHING CENTRE

Comprehensive Examination 2025-26

Biology-II For X

Section "B" (Short - Answer Questions) 24 Marks

Note. Attempt any Eight (08) questions from this section. All questions carry equal marks.

- Q.2 Why smoking is dangerous? How it is related with respiratory disorder.
- Q.3 Write down the difference between transpiration and guttation.
- Q.4 Draw a neat and labelled diagram of Eye. OR Ear.
- Q.5 Describe variation and explain any two causes of it.
- Q.6 Write down three uses of Genetic engineering.
- Q.7 Discuss different methods of asexual reproduction in animals.
- Q.8 What is pyramid of numbers?
- Q.9 Describe briefly the structure of DNA according to the Watson and Crick model.
- Q.10 Why the stomata generally open during daytime?
- Q.11 Describe structure of kidney.
- Q.12 Draw a neat and labelled diagram of Ovule.
- Q.13 Write down differences between external and internal fertilization.

Section "C" (Descriptive Answer Question) 24 Marks

NOTE: Attempt any FOUR (04) questions from this section. Each questions carries (Six) 06 marks.

- Q.14 Discuss human respiratory system in detailed.
- Q.15 Describe the urinary system in men with diagram.
- Q.16 Describe the theory of Natural selection (Darwinism)
- Q.17 Define Pollination and its types. Write down importance of Pollination.
- Q.18 Describe structure and function of nephron.
- Q.19 Define endocrine system. Write down name of three endocrine glands with one of each secretion.



# ADAMJEE COACHING CENTRE

## Comprehensive Examination 2025-26 Biology – II For X

Max. Marks 60

Time: 03 Hours

### Section "A" Multiple Choice Questions (MCQs)

- Note: (i) Attempt all the questions from this section.  
 (ii) Do not copy down the part questions. Write only the answer against the proper number of the question and its part according to the question paper.  
 (iii) Each question carries 01 mark.

Q. 1 Choose the correct answer for each from the given options.

(12)

- i. Inspiration involves:
 

(*) contraction of intercostals muscles	(*) contraction of diaphragm
(*) inward movement of ribs	(*) both a and b
- ii. Which of the following disorder is associated with inflammation of air passage way
 

(*) bronchitis	(*) lung cancer	(*) Asthma	(*) Emphysema
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- iii. The Kidney is enclosed in a membrane called
 

(*) Pericardium	(*) Peritoneum	(*) Pleural membrane	(*) Plummule
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- iv. The hormone ADH release from
 

(*) Pituitary gland	(*) Kidney	(*) Liver	(*) Lungs
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- v. The part of brain involved in reasoning is:
 

(*) fore brain	(*) Cerebrum	(*) cortex	(*) frontal lobe
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- vi. The cartilage are made up of cells called
 

(*) osteoclasts	(*) osteocytes	(*) chondrocytes	(*) chaonocytes
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- vii. The female gametes are fertilized in the very end of
 

(*) oviduct	(*) fallopian tube	(*) ovaries	(*) both a and b
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- viii. The way by which gene transmits characters from parents to offspring is
 

(*) genetics	(*) inheritance	(*) heredity	(*) allele
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- ix. It is always at the beginning of a food chain
 

(*) herbivores	(*) Carnivores	(*) decomposers	(*) producers
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- x. Extra circular DNA which use as vector of gene is
 

(*) genome	(*) Plasmid	(*) Ligase	(*) RNA
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- xi. The type of lens in our eye is:
 

(*) Convex	(*) Concave	(*) Concave & Convex	(*) None of these
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- xii. The frame work which gives shape to any structure called:
 

(*) Muscles	(*) Bone	(*) Cartilage	(*) Skeleton
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# ANEES HUSSAIN COACHING CLASSES

EXCELLENCE IN EDUCATION SINCE 1989

## COMPREHENSIVE EXAMINATION 2025-2026

### BIOLOGY S.S.C. PART-II (SCIENCE GROUP)

According to the syllabus of the Board of Secondary Education, Karachi



Total Time: 3 Hours

Total Marks: 60

General Instructions:

Section 'A': It consists of 12 Multiple choice questions (MCQs) and all of them are to be answered.

Section 'B': It consists of 12 short answer questions of which 08 questions are to be answered.

Section 'C': It comprises 06 Descriptive answer questions of which 04 questions are to be answered.

### SECTION 'A'

#### (MULTIPLE CHOICE QUESTIONS)

(Time: 30 Minutes)

(12 Marks)

Note:

- (i) Attempt all the questions.
- (ii) Do not copy down the Questions. Write only the answer against the proper number of questions and its part.
- (iii) Each question carries ONE mark.

Q 1: Choose the correct answer for each from the given options:

- i. The functional unit of kidney is:
  - \* Neuron
  - \* Alveoli
  - \* Nephron
  - \* All of these
- ii. Voice box in man is called:
  - \* Pharynx
  - \* Larynx
  - \* Glottis
  - \* Epiglottis
- iii. Which organ is responsible for filtering nitrogenous waste from blood?
  - \* Liver
  - \* Kidney
  - \* Lung
  - \* Heart
- iv. Transpiration occurs in plants through:
  - \* Stomata
  - \* Hydathodes
  - \* Guard cells
  - \* Lenticels
- v. Spinal cord is covered by a membrane called:
  - \* Pleural
  - \* Pericardial
  - \* Meninges
  - \* Peritoneum
- vi. The inner most sensory layer of eye is called:
  - \* Choroid
  - \* Retina
  - \* Conjunction
  - \* Sclera
- vii. The Central nervous system consists of:
  - \* Neuron
  - \* Spinal Cord
  - \* Brain
  - \* Both spinal cord and brain
- viii. How many pairs of ribs are present in the human chest cavity?
  - \* 10
  - \* 12
  - \* 19
  - \* 13
- ix. In flowering plants, the process of "Double Fertilization" results in the formation of a diploid zygote and a triploid (3N) structure known as the
  - \* Radicle
  - \* Endosperm
  - \* Plumule
  - \* Cotyledon
- x. Oswald Schmeideberg introduced modern:
  - \* Vaccination
  - \* Antibiotics
  - \* Pharmacology
  - \* Antiseptic
- xi. Which part of the brain is responsible for sensations?
  - \* Amygdala
  - \* Pons
  - \* Mid-brain
  - \* Hippocampus
- xii. This organ is considered the largest in the human body:
  - \* Skin
  - \* Lung
  - \* Liver
  - \* Brain

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALUR
C-17 Block I, 5 Mar Chowrangli, near Inam Clinic, North Nazimabad, Karachi. 021-36631160/36634284 0321-2353114	2nd Floor, Salma Faari View, B-pp Block H, North Nazimabad, near Danish Snacks 021-36641825/36641828 0333-2807440-7	F-4, 1 <sup>st</sup> Floor, Maqbool Heights, Main NIFA Chowrangli, Above Mubila World, Block-10, Gulshan e Iqbal, Karachi 071-34989588/36993726 34993996/0321-9284938	A-885, 2nd Floor, Sector 11-B, main U.P More bus stop, North Karachi, Karachi 021-36932266/0311-2299282 0322-2685558	Mezzanine Floor, Alamgir Rd, near Subway Snacks & Sharfabad Chowrangli, Karachi 021-39943939/34921180 0305-2797893	1 <sup>st</sup> Floor, Sarah Grand, Plot No. SB-29, Galistan-e-Johar, Block 7, Main University Road, Near Satora Chowrangli, Karachi 021-34961002/34661003 0322-4377706	C-30, 1 <sup>st</sup> Floor, Sector 2-3, Opposite Molein Foods, Gulshaw-e-Maymar, Karachi 021-36353355 0314-1222352	Plot No. 5, Block - 1, Huma Town, Model colony, Jinnah Avenue Road, Malir, Karachi. 021-34115573, 34115574 0330-2166333



# ANEES HUSSAIN COACHING CLASSES

EXCELLENCE IN EDUCATION SINCE 1989

## COMPREHENSIVE EXAMINATION 2025-2026

### BIOLOGY S.S.C. PART-II (SCIENCE GROUP)

According to the syllabus of the Board of Secondary Education, Karachi



Time Duration: 2 ½ hours

Marks: 48

(Marks 24)

### SECTION 'B' (SHORT-ANSWER QUESTIONS)

Note: Answer any Eight (08) questions from this section. Each question carries 03 marks. Answer should be clear and according to need. No extra detail is required.

- Q2. Write three differences between any ONE of the following:  
\* Photosynthesis & Respiration \* Sexual and asexual reproduction \* Epigeal and hypogeal germination.  
OR Describe multiple allele with example of blood group.
- Q3. Why nervous coordination is faster than chemical coordination?
- Q4. Write a note on kidney dialysis OR paralysis.
- Q5. Explain the drugs obtained from Animals OR plants.
- Q6. Describe the discovery of vaccine OR Antibiotic.
- Q7. Define myopia and hyperopia.  
OR Explain role of skin in cold weather condition.
- Q8. Draw the flow chart showing spermatogenesis or oogenesis.  
OR State law of incomplete dominance with suitable example.
- Q9. What is fermentation? Write lactic acid fermentation.  
OR Define joint and name its type with example.
- Q10. Explain the process of bone healing in detail step by step.  
OR Draw labelled diagram of female reproductive system of Rabbit.
- Q11. Write a Short Note on Acid Rain or greenhouse effect.
- Q12. Describe any ONE of the following along with their symptoms and causes:  
\* Asthma \* Epilepsy \* bronchitis
- Q13. Write short notes on any ONE of the following:  
\* Oxygen Debt \* kidney stone \* Urea formation

### SECTION 'C' (DETAILED-ANSWER QUESTIONS)

(Marks 24)

Note: Answer any FOUR (04) questions from this section. Each question carries 06 marks.

- Q14. Explain law of independent assortment with suitable example.  
OR Describe addictive drugs and describe any two types with example.
- Q15. Explain nitrogen cycle in detail.  
OR Describe Darwin's theory in detail.
- Q16. Explain biotic or abiotic components of ecosystem (any three).
- Q17. Write down the process of urine formation.  
OR Define endocrine gland and also explain the structure and hormonal function of pancreas or gonads.
- Q18. Explain human brain in detail (any six components).  
OR Explain human respiratory system in detail.
- Q19. Draw a net and labelled diagram of any one of the following:  
\* L.S of Kidney \* Respiratory system of Man \* Human Eye \* Structure of Nephron  
OR Explain genetic engineering and its uses and also write its six achievements.

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
C-17 Block 4, 5 Star Chowrangh, near Imam Clinic, North Nazimabad, Karachi. 021-36631180/36634284 021-2333114	2nd Floor Saina Paarl View, B pp Block II, North Nazimabad, near Danish Snacks 021-36641888/36641888 0333 2857446 7	E4, 1 <sup>st</sup> Floor, Masjid Heights, Main NPA Chowrangh, Above Mohib World, Block 10, Gulshan-e-Iqbal, Karachi 021-34589288/34993725 34993996/0321 9289558	A-985, 2nd Floor, Sector 11 B, Main U.P. Murre bus stop, North Karachi, Karachi 021-35831256/0311-259782 0322 2685558	Mezzanine floor, Alamgir Rd, near Subway Snacks & Sharfabad Chowrangh, Karachi 021-34943939/ 34921180 0303 2267893	1 <sup>st</sup> Floor, Sarah Grands, Flat No. 50/29, Gulistan-e-Johar, Block 7, Main University Road, Near Sefora Chowrangh, Karachi 021-34681002/34681003 0314 4977736	C-30, 1 <sup>st</sup> Floor, Sector Z-1, Opposite Mohsin Foods, Gulshan-e-Maymar, Karachi 021-30353355 0314 1222352	Plot No.5, Block - L, Hum'a Town, Model colony, Inna's Avenue Road, Malir, Karachi. 021-34115573, 34115574 0330 2166335



## CHAPTER # 01

### **Gaseous Exchange**

1. Differences B/W Photosynthesis and Respiration:
2. Role of opening and closing of stomata:
3. Mechanism of Human respiratory system:
4. Structure of Human respiratory system: (For Long Question)
5. Respiratory Disorders: (For Long Question And Short Note)

## CHAPTER # 02

### **Homeostasis**

1. Adaptation of plant in maintaining different internal condition:
2. Removal of excessive water in plants: (For Short Note)
3. Osmotic adjustment in plants: (For Short Ques)
4. Osmoregulation in terrestrial organism: (For Short Note)
5. Short note on excretion:
6. Structure and mechanism of human skin: Along with its Diagram:
7. Urinary System in Man: (Along With Diagram)
8. Structure of kidney: (For Diagram)
9. Structure of nephron: (For Diagram)
10. Urine formation: (For Long Question)
11. Disorders of kidneys: (For Short Note)

## CHAPTER # 03

### **Co-Ordination And Control**

1. Types of co-ordination: (Difference)
2. Co-ordination in lower living organisms: (Short Note)
3. Human Nervous System: (For Long Question)
4. Structure of Neuron: Along with Diagram
5. Structure of Human eye: Along with Diagram
6. Endocrine Glands: (All)
7. Nervous Disorders: (For Short Note)

## CHAPTER # 04

### **Support And Movement**

1. Difference Between:
  - \* Movement and Locomotion
2. \* Internal and External Stimuli

3. Describe different type of movement on the basis of response
4. Explain skeleton and also write its types:
5. Explain the process of bone healing in detail step by step:
6. What are joints? Also write its types in detail:
7. Explain the types of muscles along with diagram:
8. What are the disorders of skeleton system, Explain in detail:
9. Describe Human Skeleton in detail.

### *CHAPTER # 05*

#### ***Reproduction***

1. Difference between:
 

<ul style="list-style-type: none"> <li>*Sexual and Asexual reproduction</li> <li>*Epigeal and hypogeal germination</li> </ul>	<ul style="list-style-type: none"> <li>* Vegetative and Artificial propagation</li> <li>* Spermatogenesis and Oogenesis</li> </ul>
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2. Methods of Asexual reproduction:
3. Secual reproduction in flowering plants:
4. Pollination and its types:
5. Describe seed and its structure:
6. Describe the process of germination of seed:
7. Describe the process of asexual reproduction in animals in detail: (For long Question)
8. Describe the process of Sexual reproduction in animals in detail: (For long Question)
9. What is fertilization: Also Wirte its types: (For long Question)

### *CHAPTER # 06*

#### ***Inheritance***

1. Define:
 

* Inheritance.	* Heredity.	* Variations.	* Genes
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2. Describe the structure of Chromosome:
3. Briefly explain the structure of DNA along with diagram: (For long Question)
4. Explain the procedure of The Central Dogma of protein synthesize by Gene in detail:
5. What is Mendel's law of complete dominance:
6. Explain law of Segregation/ Law of purity of gametes: (For Long Question)
7. Explain the law of Independent assortment: (For Long Question)
8. Describe Multiple Allele with the example of Blood group:
9. Describe Rh blood type:
10. What are causes of variations:
11. Describe Darwin's theory in detail: (For Long Question)

### *CHAPTER # 07*

#### ***Man And Its Environment***

1. Write components of Ecosystem:

2. Define Food Chain and Food Web:
3. What is Biogeochemical cycle:
4. Describe Nitrogen cycle in detail: (For Long Question)
5. What is the interaction of living things in the ecosystem:
6. Write a short note on Acid Rain or Deforestation
7. What is pollution? Also write its types

### CHAPTER # 08

#### **Biotechnology**

1. Define Biotechnology: Also describe its importance and scope of biotechnology:
2. Explain the term fermentation :Also write its importance:
3. Define Genetic Engineering : Also write its uses:

### CHAPTER # 09

#### **Pharmacology**

1. Describe Medicinal drugs and where they are obtained from?
2. What are the uses of medicinal drugs:
3. Describe Addictive drugs: Also describe its types:
4. Write the discovery of antiseptic or antibiotic:
5. What are the role of vaccine and antibiotics : Also define immunizations:

