



TALEEM CITY INSTITUTE

Ameenpur, Faisalabad

03126987979

Name:		Roll#:		Class:	Inter Part-II
Subject:	Biology-12	Date:		Time:	
Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-15,				

Q.1 Circle the Correct Answers.

(6x1=6)

- Animals that do not require to adjust their internal osmotic state actively are known:
(A) Osmoregulators (B) Osmoconformers (C) Terrestrials (D) Hypertonic
- Fresh water protozoans pump out excess water by:
(A) Contractile Vacuole (B) Food Vacuole (C) Pinocytosis (D) Phagocytosis
- ADH affects which part of Nephron?
(A) Walls of collecting duct (B) Glomerulus (C) Walls of loop of Henle
(D) Proximal convoluted tubule
- Hemodialysis means:
(A) Removing the blood (B) Clearing the blood (C) Diluting the blood (D) Storing the blood
- The homeostatic thermostat is present in:
(A) Pituitary (B) Hypothalamus (C) Pancreas (D) Kidney
- In bacterial and viral infections, pathogens and leukocytes cell produce a chemical called:
(A) Pyrexia (B) Toxins (C) Aflatoxins (D) Pyrogen

Q.2 Write short answers of the following questions.

(8x2=16)

- How osmoregulation differ from excretion?
- Why leaves are said to be excretophores.
- Draw and label human Kidney.
- Write a short note on Kidney transplantation.
- What are heat shock proteins?
- What are heterotherms? Give example.
- Differentiate between Shivering and Non-Shivering thermogenesis.
- Define panting with one example.

NOTE: Attempt the long question.

(4+4=8)

3(a) Discuss the nature of excretory products in different habitats.

(b) Explain working of Nephron in Human Kidney.

MCQs Ans Key.

Q:1 (B)

Q:2 (A)

Q:3 (A)

Q:4 (B)

Q:5 (B)

Q:6 (D)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-16,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i The sleep movements of plants fall under the category of:
(A) Growth (B) Tactic (C) Turgor (D) Tropic
- ii Which bone provide attachment site for:
(A) Compact bone (B) Spongy bone (C) Soft bone (D) Cartilage
- iii Mature bone cells are called as:
(A) Osteoblasts (B) Osteocytes (C) Osteoclasts (D) Chondrocytes
- iv There are _____ vertebrate in the neck region of mammals.
(A) 12 (B) 10 (C) 7 (D) 4
- v Joints that are held together by short fibers embedded in connective tissue:
(A) Fibrous Joints (B) Cartilaginous Joint (C) Synovial Joints (D) Hinge Joints
- vi Rickets is due to deficiency of vitamin:
(A) A (B) C (C) D (D) E

Q.2 Write short answers of the following questions. (8x2=16)

- i. Differentiate between Geotropism and Hydrotropism.
- ii. Define Tactic Movements. Give its one type.
- iii. Differentiate between photonasty and thermonasty:
- iv. Give role of Skeleton in mineral homeostasis and blood cell production.
- v. Define the mechanism of hydrostatic skeleton:
- vi. Name the unpaired facial bones.
- vii. Enlist the various facial bones.
- viii. What is the effect of exercise on muscles?

NOTE: Attempt the long question.

(4+4=8)

3(a) Give importance of skeleton.

(b) Write the major evolutionary adaptation in the lines of tetrapod.

MCQs Ans Key.

Q:1 (C)

Q:2 (A)

Q:3 (B)

Q:4 (C)

Q:5 (A)

Q:6 (C)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-17,				

Q.1 Circle the Correct Answers.

(6x1=6)

- Promotes closing of Stomata under conditions of water stress:
(A) Ethene (B) Absciscic Acid (C) Gibberellins (D) Cytokinnins
- The hormone which inhibits root growth is:
(A) Auxins (B) Gibberellins (C) Cytokinins (D) Absciscic acid
- The sensation of pain is produced by:
(A) Chemoreceptors (B) Mechanoreceptors (C) Photoreceptors (D) Nociceptors
- In myelinated neurons, the impulse jumps from node to node and is called:
(A) Saltatory impulse (B) Nerve impulse (C) Synapse (D) Synapsis
- The chemical waste of industry is called:
(A) Pollution (B) Effluent (C) Toxin (D) Pollutant
- Effective drug available for Parkinson's disease is:
(A) Nicotine (B) GDNF (C) AZT (D) L-dopa

Q.2 Write short answers of the following questions.

(8x2=16)

- Give role of 2, 4-dichlorophenoxyacetic acid.
- What is meant by division of Labour?
- Give the functions of Hypothalamus.
- What is difference between Somatic nervous system and Autonomic nervous system?
- What is Epilepsy?
- Give Role of Hypothalamus as Endocrine gland.
- Which hormones are secreted by Posterior lobe of pituitary gland?
- What is Secretin?

NOTE: Attempt the long question.

(4+4=8)

3(a) Explain feed back mechanism. Give an example.

(b) Give general characteristics and commercial applications of Gibberellins.

MCQs Ans Key.

Q:1 (B)

Q:2 (D)

Q:3 (D)

Q:4 (A)

Q:5 (B)

Q:6 (D)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-18,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i Type of asexual reproduction:
(A) Fertilization (B) Vernalization (C) Apomixes (D) Photoperiodism
- ii A fluid is secreted to provide liquid medium, protection and nourishment:
(A) Corpus luteum (B) Follicle (C) Sertoli (D) Illerus
- iii Sperms are formed in:
(A) Vas deferens (B) Collecting ducts (C) Epididymis (D) Seminiferous tubules
- iv During delivery in human, the average loss of blood is:
(A) 150cm^3 (B) 250cm^3 (C) 350cm^3 (D) 450cm^3
- v When will call embryo a fetus?
(A) After 2 months (B) after 3 months (C) After 4 months (D) After 5 months
- vi Causative agent of Genital Herpes is a:
(A) Virus (B) Bacteria (C) Fungi (D) Protozoan

Q.2 Write short answers of the following questions.

(8x2=16)

- i. Enlist methods of asexual reproduction.
- ii. Differentiate between diploid and Haploid parthenogenesis.
- iii. Differentiate between Oogenesis and Spermatogenesis.
- iv. Define follicle atresia.
- v. What is the role of oxytocin in labour?
- vi. What are test tube babies?
- vii. What is Gonorrhea?
- viii. What is the cause and effect of syphilis?

NOTE: Attempt the long question.

(4+4=8)

3(a) Describe the human female reproductive cycle.

(b) Explain sexually transmitted disease in human.

MCQs Ans Key.

Q:1 (C)

Q:2 (C)

Q:3 (D)

Q:4 (C)

Q:5 (B)

Q:6 (A)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-19,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i During elongation, the cell volume increase upto:
(A) 50 fold (B) 100 fold (C) 150 fold (D) 200 fold
- ii Intercalary meristems are situated at:
(A) Root Apex (B) Shoot Apex (C) Base of Internode (D) Top of Internode
- iii The removal of apex releases that Lateral buds from the apical dominance. It is called:
(A) Inhibitory effect (B) Compensatory effect (C) Apical dominance (D) Reproduction
- iv Immediately after fertilization, the egg undergoes a series of mitotic divisions called:
(A) Morulla (B) Gastrulaion (C) Cleavage (D) Blastula
- v Hatching period of chick is:
(A) 15 days (B) 18 days (C) 21 days (D) 28 days
- vi Gray equatorial cytoplasm gives rise to _____:
(A) Epidermis (B) Muscle Cells (C) Notochord & Neural tube (D) Gut

Q.2 Write short answers of the following questions. (8x2=16)

- i. Differentiate between growth and development.
- ii. Define differentiation and Maturation.
- iii. Define growth correlations.
- iv. Define Apical dominance.
- v. Differentiate between Inhibitory and compensatory effect.
- vi. Name two layers of lateral plate of mesoderms.
- vii. Write down the names of different kinds of cytoplasm with their functions.
- viii. Write regeneration in invertebrate animals.

NOTE: Attempt the long question.

(4+4=8)

3(a) Define teratology. Discuss various types of abnormalities in development.

(b) Write a note on Neurulation in Chick Embryo.

MCQs Ans Key.

Q:1 (C)

Q:2 (C)

Q:3 (B)

Q:4 (C)

Q:5 (C)

Q:6 (C)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-20,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i V-shaped chromosomes are called:
(A) Acrocentric (B) Telocentric (C) Metacentric (D) Submetacentric
- ii The strand which elongates towards the replication fork is:
(A) Leading (B) Lagging (C) Okazaki (D) Primer
- iii Which one of the following is initiation codon:
(A) AUG (B) GUA (C) UGA (D) GAC
- iv The genetic code for glycine is:
(A) UAG (B) GAU (C) GUA (D) GGU
- v Which of the following is a non sense codon?
(A) UGA (B) UGG (C) AUG (D) AUC
- vi This condition appears as a result of point mutation:
(A) Down Syndrome (B) Turner Syndrome (C) Klinefelter Syndrome (D) Sickel cell Anaemia

Q.2 Write short answers of the following questions. (8x2=16)

- i. What is nucleosome?
- ii. Name important enzymes involved in DNA replication.
- iii. What is Sickel Cell Anemia?
- iv. How mRNA in eukaryotic cells remain protected from nucleases and phosphatases?
- v. Define Central Dogma.
- vi. Write a note on three types of RNA.
- vii. Give function of RNA polymerase in transcription.
- viii. Define Point mutation.

NOTE: Attempt the long question.

(4+4=8)

3(a) Explain Meselson – Stahl experiment.

(b) Explain Experiment of Beadle and Tatum on Neurospora.

MCQs Ans Key.

Q:1 (C)

Q:2 (A)

Q:3 (A)

Q:4 (D)

Q:5 (A)

Q:6 (D)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-21,				

- i During cell division, the nuclear division is called:
(A) Cytokinesis (B) Karyokinesis (C) Karyotype (D) Plasmolysis
- ii Which one is absent in animal cells?
(A) Spindle (B) Centriole (C) Chromatids (D) Phragmoplast
- iii Mitosis is divided into.
(A) karyokinesis (B) cytokinesis (C) interphase (D) both a and b
- iv The phase in Meiosis I which last for days, weeks or even years is:
(A) Leptotene (B) Zygotene (C) Pachytene (D) Diplotene
- v Crossing over occurs during:
(A) Diplotene (B) Pachytene (C) Zygotene (D) Leptotene
- vi In which stage of Meiosis, the paired chromosomes repel each other and begin to separate:
(A) Leptotene (B) Zygotene (C) Diplotene (D) Pachytene

Q.2 Write short answers of the following questions. (8x2=16)

- i. What is interphase? Write the names of its substages.
- ii. What is Kinetochore?
- iii. How do karyokinesis and cytokinesis phases of cell division differ?
- iv. What are the main features of metaphase-I of meiosis?
- v. How meiosis plays its role in producing genetic variations?
- vi. Define crossing over. Give its importance.
- vii. Describe causes and symptoms of Down's syndrome.
- viii. Give symptoms of Turner's syndrome.

NOTE: Attempt the long question.

(4+4=8)

3(a) Describe Prophase-I of meiosis in detail.

(b) How does cytokinesis occur in animals cells? In which way does it differ from that in plant cell?

MCQs Ans Key.

Q:1 (B)

Q:2 (D)

Q:3 (D)

Q:4 (C)

Q:5 (B)

Q:6 (C)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-22,				

Q.1 Circle the Correct Answers.

(6x1=6)

- When a heterozygote exceeds the phenotypic expression of both the homozygotes the phenomenon is called:
(A) over-dominance (B) incomplete dominance (C) co-dominance (D) All of these
- RH Blood group system is named after its:
(A) Discoverer (B) Rhesus monkey (C) A Patient (D) Rhinoceros
- Secretor gene Se is present on chromosome number:
(A) 11 (B) 19 (C) 21 (D) 23
- The gene that triggers developmental process towards maleness is:
(A) TFM (B) SRY (C) MODY (D) BOB
- Green colour blindness is called:
(A) Deuteranopia (B) Protanopia (C) Tritanopia (D) Colour blind
- Which of these traits zigzags from maternal grand father through a carrier daughter to a grandson?
(A) autosomal (B) X - linked (C) Y - linked (D) X and Y linked

Q.2 Write short answers of the following questions.

(8x2=16)

- Compare Monohybrids and Dihybrids.
- Differentiate between complete and over dominance.
- What is incomplete dominance?
- Differentiate between linkage and linkage group.
- Write formula to calculate recombination frequency.
- What do you know about protanopia and tritanopia?
- What is the risk of colour-blind child in family when father is colour-blind but mother is normal?
- How is blood pressure a multifactorial trait?

NOTE: Attempt the long question.

(4+4=8)

3(a) Discuss the genetics of Colour Blindness.

(b) Define Multiple Alleles. Explain it with ABO blood group system of man.

MCQs Ans Key.

Q:1 (A)

Q:2 (B)

Q:3 (B)

Q:4 (B)

Q:5 (A)

Q:6 (B)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-23,				

Q.1 Circle the Correct Answers.

(6x1=6)

- The enzymes which are used to cut out the gene of interest are known as:
(A) DNA ligase (B) DNA polymerase (C) RNA polymerase (D) Restriction Endonuclease
- The two different pieces of DNA joined together, is called as:
(A) Dimeric DNA (B) Chimaeric DNA (C) Trimeric DNA (D) Tetrameric DNA
- Eco R_1 is a commonly used:
(A) Gene (B) Restriction Enzyme (C) Bacteriophage (D) Bacteria
- A full set of genes of an individual is called:
(A) Genome (B) Genotype (C) Karyotype (D) Dominance
- Persons with huntington's disease have a unique site where a restriction enzyme cuts:
(A) DNA (B) RNA (C) Lipids (D) Proteins
- Transgenic bacteria are produced in large vats called:
(A) transducer (B) bioreactor (C) biomultiplier (D) culter media

Q.2 Write short answers of the following questions. (8x2=16)

- What is genetic Engineering?
- Why biotechnology is important for human beings?
- What is genomic library?
- Define Bioreactors.
- Discuss any two benefits of transgenic bacteria to promote health of plants.
- What is cystic Fibrosis?
- How hypercholesterolemia can be cured by gene therapy?
- Define Hybridization.

NOTE: Attempt the long question.

(4+4=8)

3(a) What is the polymerase chain reaction (PCR), and how is it carried out to produce multiple copies of a DNA segment?

(b) For what purpose have bacteria, plants and animals been genetically altered?

MCQs Ans Key.

Q:1 (D)

Q:2 (B)

Q:3 (B)

Q:4 (A)

Q:5 (A)

Q:6 (B)



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Test Syllabus:	Unit-24,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i The first photosynthetic organisms used _____ as source of hydrogen for reducing carbon dioxide to sugars.
(A) H_2S (B) H_2 (C) S (D) CO_2
- ii Darwin's origin of species was published in:
(A) 1840 (B) 1859 (C) 1865 (D) 1890
- iii Tubes that connect the middle ear with the throat in humans are called:
(A) Eustachian tube (B) Neural tube (C) Fallopian tube (D) Nephridial tube
- iv Which one is not a vestigial organ of human being?
(A) appendix (B) coccyx (C) nictitating membrane (D) eye lid
- v Level of classification between species and family is called _____.
(A) Family (B) species (C) Genus (D) order
- vi Hardy – Weinberg's theorem describes the frequencies of genotype of non-evolving:
(A) Family (B) Population (C) Species (D) Community

Q.2 Write short answers of the following questions.

(8x2=16)

- i. What are hydrothermal vents?
- ii. What are hydrothermal vents?
- iii. Describe the term of Biogeography.
- iv. Differentiate between Homologous and Analogous organs.
- v. Explain the term homology with a suitable example.
- vi. How artificial selection is different from natural selection?
- vii. Give the importance of population genetics in evolution.
- viii. Differentiate between population and Gene pool.

NOTE: Attempt the long question.

(4+4=8)

3(a) Define gene frequency. Describe factors affecting Gene frequency.

(b) Write Darwin's theory of evolution.

MCQs Ans Key.

Q:1 (A)

Q:2 (B)

Q:3 (A)

Q:4 (D)

Q:5 (C)

Q:6 (B)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-25,				

Q.1 Circle the Correct Answers.

(6x1=6)

- The whole of the world land is called:
(A) Lithosphere (B) Ecosphere (C) Hygrosphere (D) Biosphere
- The basic functional unit of ecology is:
(A) Niche (B) Population (C) HygrosphereEcosystem (D) Community
- The bacteria in the root nodules fix nitrogen and convert it into:
(A) Nitrate (B) Nitrite (C) Amino Acid (D) Ammonia
- In root nodules, the organisms present are:
(A) Bacteria (B) Cyanobacteria (C) Algae (D) Fungi
- The process in which micro organisms use the proteins and amino acids and release ammonia or ammonium ions is known as:
(A) Nitrification (B) Ammonification (C) Denitrification (D) Assimilation
- The macronutrient in biogeochemical cycle is:
(A) Iron (B) Calcium (C) Zinc (D) Iodine

Q.2 Write short answers of the following questions.

(8x2=16)

- Differentiate between Ectoparasite and Endoparasite.
- Define parasitism. Give at least one example.
- What is Symbiosis? Give one example.
- What is Commensalism? Give example.
- Differentiate between macronutrients and micronutrients.
- Differentiate between Nitrification and denitrification.
- Write name and role of nitrifying bacteria.
- Sketch three main steps in nitrogen cycle?

NOTE: Attempt the long question.

(4+4=8)

3(a) Explain the biotic components of ecosystem.

(b) Explain Food Web with diagram.

MCQs Ans Key.

Q:1 (A)

Q:2 (C)

Q:3 (C)

Q:4 (A)

Q:5 (C)

Q:6 (B)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-26,				

Q.1 Circle the Correct Answers.

(6x1=6)

- In aquatic ecosystem, near shore zone is called:
(A) Littoral zone (B) Limnetic zone (C) Profundal zone (D) Benthic zone
- Drifting or floating microscopic organisms are called:
(A) Phytoplanktons (B) Zooplanktons (C) Planktons (D) Photons
- The average rainfall in temperate deciduous forest is between:
(A) 600-1500 mm (B) 650-1500 mm (C) 700-1500 mm (D) 750-1500 mm
- Andropogon, Stipa and Panicum are found in ecosystem called:
(A) Grass land (B) Desert (C) Tundra (D) Coniferous
- Which one is not Desert:
(A) Thal (B) Thar (C) Sahara (D) Taiga
- In which type of ecosystem is the smallest fraction of nutrients present in soil:
(A) Forest (B) Savanna (C) Grass Land (D) Desert

Q.2 Write short answers of the following questions. (8x2=16)

- Name four factors which influence life on land.
- Differentiate between Alpine and Boreal forests.
- Describe briefly human impact on grass land Ecosystem.
- Give productivity in sub humid tropical grass land.
- Name predators of grassland.
- Differentiate between prairies and savanna.
- Where is desert ecosystem located in Pakistan?
- How animals and plants conserve water in terrestrial environment?

NOTE: Attempt the long question.

(4+4=8)

3(a) Where is life in oceans (hydrospheric ecosystem) most abundant and why?

(b) Discuss life in fresh water Lakes.

MCQs Ans Key.

Q:1 (A)

Q:2 (A)

Q:3 (D)

Q:4 (A)

Q:5 (D)

Q:6 (D)



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Test Type #	Type 8 - Short Test (No Choice) - Marks=30				
Test Syllabus:	Unit-27,				

Q.1 Circle the Correct Answers.

(6x1=6)

- i The upper weathered layer of earth crust is:
(A) Rock (B) Soil (C) Sandy (D) Rhizome
- ii Agriculture was started some years ago:
(A) 40,000 (B) 30,000 (C) 20,000 (D) 10,000
- iii Establishment of new forests, where no forests existed before is called:
(A) Deforestation (B) Desertification (C) Reforestation (D) Afforestation
- iv The percentage of land under cultivation is:
(A) 30% (B) 21% (C) 11% (D) 5%
- v Ozone depletion is commonly caused by:
(A) CFCs (B) CO₂ (C) Smoke (D) Smog
- vi The two main causes of air pollution are industrialization and:
(A) Automobiles (B) Urbanization (C) Deforestation (D) Overgrazing

Q.2 Write short answers of the following questions. (8x2=16)

- i. What are solid wastes?
- ii. How exhaustible resources are different from inexhaustible resources?
- iii. What are Effluents?
- iv. Define pollutants. Name two pollutants.
- v. What is stone cancer?
- vi. Differentiate pollution from pollutant.
- vii. Explain the human role for global warming.
- viii. What is water pollution?

NOTE: Attempt the long question.

(4+4=8)

3(a) Write down a comprehensive note on ozone layer and ozone layer depletion.

(b) Define Pollution. Explain about the water pollution.

MCQs Ans Key.

Q:1 (B)

Q:2 (D)

Q:3 (D)

Q:4 (C)

Q:5 (A)

Q:6 (C)