

Class: 12th

Biology

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All Punjab Boards

Most Important Guess Paper

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"یہ گیس پیپر اتنا اہم ہے کہ آپ کی محنت اور یہ سوالات آپ کو کامیابی کی بلندیوں تک پہنچائیں گے، انشاء اللہ! ان کو اچھی طرح تیار کر لیں۔"

Most Important Questions**Chapter No # 15**

Difference between osmoregulation and thermoregulation. Define hypotonic and hypertonic solution. What are xerophytes, hydrophytes and mesophytes with example. Write four adaptations of xerophytes. Define anhydriobiosis with example. What are Osmo conformers and osmoregulators? Role of contractile vacuole. Define excretophore why leaves are excretophore. Define ureotelic and uricotelic animals. What is flame cell? Difference between photonephridium and metanephridium. Draw and label urea cycle. What is counter current multiplier? What is homeodialysis and peritoneal dialysis? What is lithotripsy? What is heatshock protein? Define poikilotherm and homeotherm. Define ecto and endoderm. What is blubber? Shivering and non shivering thermogenesis. What is heterotherm? Give example. What is pyrogen and pyrexia? Define homeostasis. Give its importance. Process of painting.

Chapter No # 16

Sapwood and heartwood. What is callus and its role? Vascular and cork cambium. Fibres and sclerids. Define collenchyma's and sclerenchyma cell. Secondary growth and its significance. Nastic movement. Geotropism and pulvinus. Phototactic and phototropic movement. Epinasty and hyponasty. Advantages of exoskeleton. Ecdysis with its four stages. Epicuticle and procuticle. What is moulting? Cartilage and also define its types. Parts of hind limb. What is herniation of disc? What is rickets? What is sciatica? Microcephaly? State hematoma formation. Characteristics of smooth muscles. Rigor mortis. How the muscle fatigue is resulted? Tendons and ligaments. What is cramp? Write its cause. Tetanus and muscular tetany. Effective stroke and recovery stroke. Active and passive flight. Plantigrades and digitigrades with example. What is foreman triosseum? types of skeletons. What are the adaptations in birds for flying? hinge and ball and socket joints with examples. Vessels and tracheid's.

Chapter No # 17

What is chlorosis and etiolation? Circannual, bio and diurnal rhythm, define imprinting and hormone. Commercial application of gibberellins, Cytokinin's and ethane. Two function of auxin and oxytocin hormone. Chemo and mechanic receptors. What are pacinian corpuscles? What are effectors and receptors? Define Nissl's granules. Reflex action and reflex arc. Salutatory nerve. Resting and active membrane potential. Neurotransmitters with example. Define synapse. CNS and PNS. Role of insulin and glucagon. What is LH? Write its role. Feedback mechanism. Define kinesis and taxis.

Four types of learning behavior. What is habituation with example. What is Parkinson's disease? Innate behaviour, dendrites and axons, function of parathormone, what is Parkinson's disease? What is gastrin and secretin? Give role of 2,4 D. symptoms of Alzheimer disease.



Chapter No # 18

Define parthenocarpy and apomixes. Define vernalization with its importance. Define dormancy and its importance. Define fruit set. Hort day and long day plants with examples. Photoperiodism and its importance. What are phytochrome? What is diploid and haploid parthenogenesis? Name methods of asexual reproduction. What is tissue culture? Cloning and its importance. Identical twins and triplets. Oviparous and viviparous. Function of interstitial cells and Sertoli cells? What is follicle atresia? Ovarious and menstrual cycle. Corpus luteum and its function. What is after birth? Lactation and gestation. Explain gonorrhea. What is syphilis? What is genital herpes? Role of placenta in human? What is apomixes? Difference between menopause and ovulation and internal and external fertilization.

Chapter No # 19

Growth, open growth and development. Apical and lateral meristem. Determinate and indeterminate growth. Primary and secondary growth. How light and temperature affect plant growth? Application of apical dominance. Define growth correlation inhibitory and compensation point. Area opaca and area pellucida. Blastoderm and morula. Epiblast and hypoblast. Cleavage and discoidal cleavage. What is gray crescent giving its importance. Aging with its signs, Neoblast and their role. Define regeneration gerontology and tetralogy. What is neurula and cleft palate? Define organizer and inducer substance, difference between somatic and splanchnic mesoderm, how notochord is formed in chick embryo?

Chapter No # 20

Heterochromatin and euchromatin. Nucleosome. Chromosomal theory of inheritance. Structural formula of purines. Phosphodiester bond. Difference between purines and pyrimidines. Conservative and semi conservative replication, function of DNA polymerase 3. Define leading and lagging strand of DNA. What are Okazaki fragments? Template and coding strand of DNA. Central dogma and chemical composition of RNA. transcription and translation, role of promoter in transcription. universality of genetic code, NON-SENSE CODONE AND ITS FUNCTION. What is phenylketonuria? Define mutation with example. Sense strand and anti-sense strand, sickle cell anemia, codon and anticodon, what is point mutation? Shapes of chromosomes,

Chapter No # 21

Chromatin and chromosomes, cell cycle, G-1 Phase, how and when phragmoplast originate? What is mitotic apparatus? Karyokinesis and cytokinesis? What events occur in anaphase? Metastasis and crossing over? Cancer is uncontrolled cell division. Explain. Cancer cell and normal cell? Types of tumors? What changes occur in diplotene and anaphase 1 in meiosis? Cause and symptoms of downs syndrome. Non disjunction of chromosomes. Write symptoms of turner syndromes. Apoptosis and necrosis? Klinefelter syndrome, what is mutagens? Give example. Events of zygotene. Explain cytokinesis in plants?

Chapter No # 22

Genotype and phenotype. Define Gene, allele and loci, jumping gene, Mendel law of segregation, test cross and its significance, probability and product rule, law of independent assortment, co dominance with example, multiple allele with example, epistasis and pleiotropy with example, define polygenic inheritance, inheritance of skin colour in human, define linkage and linkage group and its disadvantages, recombination frequency with example, define autosomes and sex chromosomes, define homogametic and heterogametic organism, define SRY gene, what is sex limited and sex influenced traits? What is MODY? Bombay phenotype and haemophile? Homozygous and heterozygous, probability and product rule, X and Y linked traits / genes.

Chapter No # 23

what is genome and plasmid? Define biotechnology and recombinant DNA. What are transgenic organisms? Three methods to get gene of interest. What are restriction enzymes? Give example. What are palindromic sequences? Give its significance. What is probe? write its use. What is taq polymerase? Give its significance. Write two uses of PCR. What is DNA finger printing? Give its use. What is electrophoresis? Give importance of gene sequencing? two goals of human genome project? What are bioreactors? Difference between ex vivo and in vivo. What is cystic fibrosis? What is gene therapy and totipotent? What you know about particle gun and cell suspension culture? Name fire fly enzyme with its role. What is gene pharming? what is aspartame and clonal plants? Use of plasmids.

Chapter No # 24

Theory of special creation. What are hydrothermal vents? What is endosymbiont hypothesis? What are vestigial organs? Homologous and analogous organs. Convergent and divergent evolution. Natural and artificial selection. What is Neo darwinism and gene pool? Define population and species. Hardy Weinberg theorem. Genetic drift as factors affecting gene frequency. Endangered and threatened species. Name four extinct species. Define biodiversity. What is genetic drift? Name of theories presented by Lamarck and Darwin. Difference between homology and analogy.

Chapter No # 25

Population and community? Habitat and niche. Role of decomposers. Ecosystem and biosphere. Autecology and synecology. Define humus. Define food chain and food web. Primary and secondary succession. Hydrosere and xerosere. Define succession. Significance of predation. Predator and prey. Parasitism. Ecto and endo parasite. Root nodules and its significance. What is mycorrhiza? Define mutualism and commensalism with example. Define symbiosis with example. Define lichens. Define biogeochemical cycle. Define ammonification and assimilation. Micro and macro nutrients. Nitrification and denitrification. Define ammonification and assimilation.

Chapter No # 26

Difference between climate and weather. Phytoplankton and zooplankton. Three zones in lake ecosystem. What is eutrophication? Composition of air in terrestrial ecosystem. Two adaptations for terrestrial ecosystem. Four major terrestrial ecosystems. Difference between alpine and boreal forest. What is Tundra? Difference between savanna

and prairies. Animal life of grassland ecosystem. Location of desert biome. Name of desert in western and southern Punjab. Effect of human on tundra ecosystem. What type of life is found in tundra? Productivity of an ecosystem. What is profundal zone? Difference between that and thar. What is limnetic zone?

Chapter No # 27

What is nutrient cycle? Geothermal energy? Tidal barrage and wildlife. Four ways to save energy. What are fossil fuels? Describe Abuses of land. Define hydroelectric power. Define forest and soil. What is demography? Give its importance. Define deforestation and a forestation. What is ozone layer? Give role. What is ozone layer depletion? Acid rain and its effects. Define and causes of greenhouse effect. Industrial effluents and its role. Water pollution. Define health and disease. Difference between population explosion and population pressure give use and misuse of agrochemicals. Why trees are called environmental buffers? Renewable and non-renewable resources.

Most Important Long Questions

- **Read carefully before attempting any long question.**
- **Try to understand it properly then answer it.**
- **Specially question from Chapter No # 16, 17, 18, 19 and 21 are understanding based question.**
- **Prepare 4 or 5 bold questions from each chapter on priority basis.**
- **For objective thoroughly read the book lines, boxes, side information, captions etc.**

Chapter No # 15

- **Describe briefly the structure of nephron with Diagram.**
- Account the excretory system in earthworm and cockroach.
- Osmoregulation in animals
- **Highlight the role of liver as excretory organ.**
- **Describe excretion in plants detail.**
- Discuss kidney problems and their cure.
- **Dialysis and explain its types**

Chapter No # 16

- Explain sliding filament model of muscle contraction.
- **Explain ultra structure of myofilaments of skeletal muscle fibers.**
- **Write different types of plant movements due to external causes and also describe its importance.**
- Relate the concept of turgor movements in plants with turgor pressure changes by giving examples.
- **How does secondary growth occurs & Describes its significance.**
- **Why bones break and also explain the repair process of simple bone fracture? / How is human skeleton is deformed by Trauma? Justify your answer with reference to disc slip? What are joints? Describe its types.**

Chapter No # 17

- **Describe the role of auxins and Gibberellins.**



- Write a note on conditioned reflex type 1 & 2. / How reflex action prevents body damage during emergency?
- What is nerve impulse? Explain its mechanism with labelled diagram.
- Write a note on thyroid gland, Pituitary gland and adrenal gland.
- Write a detailed account of synapse.
- Define and explain feedback mechanism.
- How nervous system of planaria is better developed than hydra? / Compare the nervous system of hydra and planaria.



Chapter No # 18

- Write a note on sexually transmitted disease in human.
- Write a note on male reproductive system.
- Write a note on Female Menstrual cycle.
- Compare sexual and asexual reproduction.
- Elaborate childbirth in humans.
- Explain the role of phytochromes in photoperiodism.
- Define and explain the process of vernalization.

Chapter No # 19

- Explain aging process.
- Describe the role of nucleus in the development.
- What is regeneration and explain it. Why it is so effective in some animals and missed in others? What is growth? Discuss different phases of plant growth.
- Write a note neurulation in chick. / Mechanism of gastrulation during embryonic development in chick.
- How external and internal factors play their role in plant growth?
- Write a note on abnormal development.

Chapter No # 21

- Apoptosis and necrosis / In what respect cell death be regarded beneficial?
- Interphase of the cell cycle
- Explain the stages of prophase 1 of meiosis, Importance of mitosis and meiosis, cancer (uncontrolled cell division)
- Define non disjunction and explain Down's syndrome and Turner syndrome.

Chapter No # 22

- Discuss the genetics of colour blindness.
- Explain Mendel law of segregation and law of independent assortment.
- Explain different patterns of sex determination.
- Discuss the genetics of colour blindness.
- Explain Diabetes Mellitus and its genetic basis.
- Write a note on co dominance and incomplete dominance with example. Define epistasis and explain it with Bombay phenotype.

Chapter No # 23

- Human Genome project in detail Probe and its uses
- Explain the process of PCR with the help of diagram.
- What is recombinant DNA? Explain the process of expression of recombinant DNA / Role of restriction endonuclease in Recombinant DNA technology.

- Explain the methodology to carried out DNA finger printing.

Chapter No # 24



- How fossil record / comparative anatomy provide evidence in favor of evolution.
- How prokaryotes evolved from eukaryotes?
- Explain Darwin theory of natural election.
- Describe various factors affecting gene frequency.
- Hardy Weinberg theorem
- Explain endosymbiont hypothesis for the origin of eukaryotic cell?
- What is endangered species? Discus causes of extinction and its conservation plan.

Chapter No # 25

- Define succession and explain different stages of xerosere and succession.
- Explain three major steps of nitrogen cycle with diagram.
- Describe predation and parasitism and their significance.
- Define ecosystem and describe its components.
- Describe the flow of energy in food chain.
- Write a note on grazing.

- **"Bold questions are very important, so make sure to focus on them!"**

نوٹ: "MCQs کے لیے، آپ Pakcity.org کی ویب سائٹ سے گیس پیپر کی مکمل فری PDF فائل ڈاؤن لوڈ کر سکتے ہیں، جس

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