2nd Year Biology Guess Paper For all Punjab Boards

This 12th class Biology guess Paper is for all the following Punjab Boards: Faisalabad Board, Multan Board, Bahawalpur Board, DG Khan Board, Lahore Board, Sargodha Board, Gujranwala Board, Rawalpindi Board and Sahiwal Board.

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Important Questions (Biology-12)

Chapter 15

1. What is hyproxaluria?
2. Differentiate between photonasty and thermonasty.
3. Define phototactic and chemotactic movements with examples.
4. What is renal failure?
5. Differentiate between ureotelic and urecotelic animals.
6. Define anhydrobiosis with an example.
7. Define lithotripsy.

8. What is haemodialysis? Give its importance.
9. What is foramen triosium? How is it formed?
10. Differentiate between fibers and sclereides.
11. Differentiate between afferent and efferent arterioles.
12. Define endotherms, ectotherms, and heterotherms.
13. Write four adaptations of xerophytes and hydrophytes and mesophytes.
14. Differentiate between osmoconformers and osmoregulators.
15. Differentiate between active flight and passive flight.
16. Differentiate between shivering thermogenesis and non-shivering thermogenesis.
17. Define homeostasis with examples.
18. What are heat shock proteins?
19. What are hypertonic and hypotonic environments and what changes occur in cells in this environment?

Important Long Questions

1. Discuss Kidney disorders with treatment.
2. Discuss excretion in Plants.
3. Discuss the system of thermoregulation in mammals.
4. Discuss the role of the liver as an excretory organ.

Chapter 16

1. What are the internal factors which affect the process of growth?
2. What is secondary growth? Give its importance.
3. What are brnachialis and branchioradialis?
4. What is non-disjunction? Give its effects.

5. What are rickets? Give its causes and treatment.
6. Differentiate between tendons and ligaments.
7. Differentiate between hyaline and fibrocartilage.
8. What is sciatica and its causes?
9. Differentiate between effective and recovery strokes.
10. What is a synovial joint?
11. Give the composition of the exoskeleton in mollusks and arthropods.
12. What is blastoderm? Name its layers.
13. What is hematoma formation?
14. How callus is formed?
15. Differentiate between bone and cartilage.
16. Name the unpaired facial bones.
17. Differentiate between epical, lateral, and intercalary meristems.

Important Long Questions

1. Explain the main parts of the axial skeleton and appendicular skeleton.
2. Explain different types of joints.
3. Give a detailed note on the sliding filament model.
4. What is an endoskeleton? Describe bone and cartilage.
5. Describe the significance of secondary growth in plants. Phases of plant growth
6.

Chapter 17

1. What is a hormone? List its type.
2. Define habituation with an example.

3. Give functions of the parathyroid gland and adrenal gland.
4. What is Alzheimer's disease?
5. What are the effects of nicotine on coordination?
6. What is chlorosis?
7. Differentiate between nerves and ganglia.
8. What is salutatory impulse?
9. Define primary organizer and primary induction.
10. Draw and label sensory neurons.
11. Define reflex arc.
12. What are effectors? Give their types.
13. Name only types of innate behavior.

Differentiate between neurula and neurocoel.

Important Long Questions

1. Explain the structure and functions of the human brain with a diagram.
2. Write a note on the adrenal gland.
3. The nervous system of Hydra is better developed than that of Planaria. Discuss.
4. How nerve impulse is produced? Explain its mechanism with a diagram.

Chapter 18

1. Define apomixis.
2. Defined haploid and diploid parthenogenesis?
3. What is ovulation?
4. What is diploid parthenogenesis?

5. What is the structure and function of the corpus leuteum?
6. Name STDs with their relative causative agents.
7. Differentiate between identical and fraternal twins.
8. Differentiate between oviparous and viviparous.
9. Define menstrual cycle, estrous cycle, and menopause.
10. What is photoperiodism? Give its effects on plants.
11. Define vernalization. Write its two advantages.
12. Define tissue culture and cloning with examples
13. Differentiate between sexual and asexual reproduction.
14. Define parthenocarpy. Give examples.
15. What is seed dormancy? Give its importance.

Important Long Questions

1. Explain the female menstrual cycle.
2. Elaborate on the functions of the placenta during pregnancy.
3. Explain the male reproductive system of man.
4. Compare asexual reproduction with sexual reproduction.

Chapter 19

1. Describe the role of cytoplasm in development.
2. Write a short note on types of growth.
3. What is meant by differentiation?
4. Differentiate between the morula and blastula stages in the development of the chick.
5. What is the basic difference between a chick and an amphibian embryo?
6. Define correlation.

7. What is meristem?
8. What do you know about open growth?
9. Define hypoblast and epiblast.
10. Give two causes of abnormal development.
11. What is blastoderm? Name its layers.
12. What are the internal factors which affect the process of growth?
13. What is discoidal cleavage?
14. Differentiate between neurula and neurocoel.
15. What is organogenesis?
16. Define regeneration with an example.
17.
18. Differentiate between growth and development.
19. Differentiate between epical, lateral, and intercalary meristems.
20. Write three signs of aging.

Important Long Questions

1. Explain internal and external factors of growth.
2. Explain the phases of growth in plants.
3. Write a note on the development of the chick.
4. Describe the signs and causes of abnormal development.

Chapter 20

1. Write the main component of DNA.
2. Define point mutation and chromosomal aberration.
3. What are Okazaki fragments? Give their length.
4. Name types of RNA.

5. Differentiate between transcription and translation.
6. Define chromosomes and nucleosomes.
7. What is sickle cell anemia?
8. Define semi-conservative replication.
9. Explain sex-limited traits.
10. What is phosphodiester linkage?
11. What is mutation?
12. Where does DNA replication start on the DNA molecule?
13. Define the transformation process.
14. Define recombinant DNA. Role of lambda phage.
15. What is anticodon?
16. What is karyotype?
17. What is a transcription bubble?
18. Write 3 major classes of RNA

Important Long Questions

1. Describe DNA as Hereditary material in detail.
2. What are chromosomes? What do you know about their types?
3. Explain the Watson and Crick model of DNA.
4. Explain the works of Meselson and Stahl in DNA study.

Chapter 21

1. What is meant by the G0 phase?
2. What events occur in the prophase of mitosis?
3. How prophase of meiosis differ from that of mitosis?

4. What is chiasmata?
5. What is interphase? Why is it called the resting phase?
6. Write the symptoms and causes of Down's syndrome.
7. What is Turner's syndrome? Give its causes and features.
8. Define crossing over.
9. Give the importance of mitosis/meiosis.
10. What is metastasis? Write its importance.
11. Differentiate between apoptosis and necrosis.
12. What is non-disjunction? Give its effects?
13. Define cell cycle. Give its phases.
14. How cytokinesis occur in animals and plants
15. What is mitotic apparatus? Give its functions.
16. Explain homologous and analogous organs.

Chapter 22

1. What is Epistasis? What is the Bombay Phenotype? Dominance?
2. Differentiate between genotype and phenotype.
3. What is totipotency and totipotent cell?
4. What is true breeding variety?
5. What is meant by MODY?
6. What is over dominance and co-dominance?
7. What is genetic drift? Genetic code. Fixed alleles.
8. Write the Name of any four animals declared extinct in Pakistan.
9. Define homozygous and heterozygous alleles.
10. Define euchromatin.

11. What is cretinism?
12. Describe gonorrhea.
13. What is transformation?
14. What are allele and gene and gene pool and gene frequency?

Important Long Questions

1. What is incomplete dominance? Explain with an example.
2. Explain epistasis with an example of the Bombay phenotype.
3. Define and explain Mendel's Law of segregation.
4. Explain the phenomenon of gene linkage regarding linkage groups.

Chapter 23

1. Give three possible ways to get the gene of interest.
2. Give two goals of the human genome project.
3. What is a probe? Give its uses.
4. Define genomic library.
5. Define biotechnology. Give its applications.
6. Differentiate between molecular scissors and molecular vectors.
7. Give two requirements to produce recombinant DNA.
8. Explain and give examples of ex vivo and in vivo gene therapies in humans.
9. What are transgenic plants?

Chapter 24

1. Define fossils. How do they provide the evidence of evolution?
2. What are endangered and threatened species? Give some examples.
3. What is the Hardy-Weinberg theorem? Give its equation.
4. Differentiate between homologous and analogous organs.
5. State endosymbiont hypothesis.
6. Define population genetics.
7. What are hydrothermal vents? How do they support life?
8. What are vestigial organs? Name some important vestigial organs of man.
9. How artificial selection is different from natural selection.
10. State theory of special creation.
11. Name any four animals declared extinct in Pakistan.
12. Define neo-Darwinism/modern synthesis.

Important Long Questions

1. Explain Darwin's theory of natural selection.
2. Discuss the evolution from prokaryotes to eukaryotes.
3. Describe the evidence of evolution in various branches of biology like biogeography and fossil study.

Chapter 25

1. Define the food chain and food web.
2. Differentiate between habitat and niche.
3. Differentiate between consumers and decomposers.
4. Differentiate between hydrosere and xerosere.
5. Differentiate between primary succession and secondary succession.
6. Differentiate between population and community with examples.
7. Differentiate between synecology and autecology.
8. What is predation? Give its significance.
9. Define parasitism and commensalism.
10. Write down the types of living organisms found in the limnetic zone. (its life) (2)
11. Differentiate between climate and weather. (3)
12. Define renewable and nonrenewable resources. (5)
13. Define ecosystem, biosphere, and biome.

Important long questions

1. Explain the biotic components of an ecosystem.
2. Explain xerosere succession stages.
3. Write a note on the nitrogen cycle.
4. flow of energy in a food chain.

Chapter 27

1. What is solid waste? Give its importance.
2. Define the greenhouse effect. Give its effects on the environment.
3. Trees as environmental buffers.
4. Write a note on non-renewable energy resources.

5. Explain the causes and effects of ozone depletion.
6. Give the main causes/sources of water pollution.
7. Define deforestation and afforestation.
8. What is the ozone layer? Give its important function in the environment.
9. Define water pollution and acid rain.

Important long questions

1. Describe deforestation and its effects.
2. Explain the importance of forests/trees
3. Briefly explain and causes and effects of air pollution.
4. Write a note on a)ozone depletion b) the greenhouse effect