Class :11th

Biology Guess paper

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Note: For MCQs all exercises Objective is important.

Subjective

Chapter : 01 Introduction

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Q1: Define molecular biology and microbiology.

Q2: Define marine biology and biotechnology.

Q3: What do you mean by hypothesis?

Q4: What is the difference between population and community?

Q5: What is the difference between theory and law?

Q6: Write the name of six elements that are present in almost all the living organisms.

Q7: Define integrated disease management.

Q8: Define chemotherapy.

Q9: Define radiotherapy.

Q10: Define gene therapy.

Q11: Define hydroponic technique with its importance.

Q12: Explain vaccination.

Q13: Define biome with example.

Q14: What is deductive reasoning?

Q15: Define phyletic lineage.

Q16: Define biodiversity.

Q17: What is the difference between deductive reasoning and inductive reasoning?

Q18: Write a short note on cloning.

Q19: Define human biology and ecology.

Q20: What are different levels of biological organization?

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Most Important Long Questions

Q1: Explain the biological method for solving a biological problem.

Q2: How do deductive and inductive reasoning play a role to solve biological problem?

Q3: How study of biology helped mankind to improve production of food.

Q4: Discuss the types and importance of cloning.

Q5: What is the role of the study of Biology in the welfare of mankind?

Chapter : 02 Biological Molecules

Q1: Name the carbohydrates suitable as food for man.

Q2: Why are fats considered as high energy compounds?

Q3: What is the function of mRNA?

Q4: What is the general formula for amino acids?

Q5: What is the percentage of water in brain cells of man?

Q6: Define biochemistry with its importance.

Q7: Write about five different functions of proteins.

Q8: What is the difference between glycosidic and peptide bond?

Q9: Write the names of different compounds of which amino acid is composed of.

Q10: Define lipids.

Q11: Write the names of nitrogenous bases presents in both DNA and RNA.

Q12: Write two roles of waxes.

Q13: What are different kinds of RNA?

Q14: Write at least one function of each.

Q15: What is the difference between saturated and unsaturated fatty acid?

Q16: Write the structure of lecithin.

Q17: Define condensation and hydrolysis.

Most Important Long Questions

Q1: Describe the importance of water for life.

Q2: What do you know about polysaccharides?

Q3: Write a short note on amino acids.

Q4: Explain acylglycerols.

Q5: Describe primary and secondary structure of protein.

Q6: Compare DNA and RNA.

Q7: Explain different types of RNA.

Chapter : 03 Enzymes

Q1: List two conditions that destroy enzymatic activity by disrupting bonds between the atoms in an enzyme.

Q2: How do low and high temperature, affect an enzyme activity?

Q3: What is a prosthetic group?

Q4: Define inhibitors of enzyme.

Q5: How does an enzyme accelerate a metabolic reaction?

Q6: What do you know about the active site of an enzyme?

Q7: Differentiate between apoenzyme and holoenzyme.

Q8: What are metal activators?

Q9: What do you know about the enzyme inhibitors?

Q10: Differentiate between reversible and irreversible enzyme inhibitors.

Q11: Differentiate between competitive & non-competitive enzyme inhibitors.

Q12: What do you know about the cofactor & activator of enzyme?

Q13: What do you know by induce fit hypothesis?

Q14: How does an enzyme accelerate a metabolic reaction?

Q15: How PH of cell affect the enzyme activity?

Q16: Write the characteristics of enzymes.

Q17: How enzyme concentration and substrate concentration affect enzyme activity?

Q18: What do you know about the induced fit model?

Q19: How does high temperature affect enzyme activities?

Q20: Write the role of pH in enzyme action.

Q21: Write optimum pH values for any two enzyme actions.

Most Important Long Questions

Q1: Describe in detail the mechanism of enzyme action.

Q2: Give the effect of pH and temperature on the efficiency of an enzyme action.

Q3: What is the importance of enzymes in life?

Chapter : 04 The Cell

Q1: Describe various movements involved in the transport of materials across the cell membrane.

Q2: State various structural modiications in a cell involved in secretions.

Q3: List the processes blocked by mitochondrial failure in a cell.

Q4: What will happen if a chromosome loses its centromere?

Q5: How does autophagy help in converting a tadpole larva into an adult amphibian?

Q6: Is there any similarity between bacterial and plant cell wall?

Q7: Write the salient features of cell theory.

Q8: What is Glycoclyx?

Q9: Differentiate between phagocytosis and pinocytosis.

Q10: Write about five different functions of proteins.

Q11: Write chemical composition of primary and secondary cell wall.

Q12: Describe the function of nucleus.

Q13: Differentiate between cisternae and cristae.

Q14: What do you know about peroxisome, polysome and ribosome?

Q15: Write functions of smooth endoplasmic reticulum.

Q16: What do you know about paroxysms?

Q17: Define storage diseases with examples.

Q18: Draw a labeled diagram of Mitochondrion?

Q19: Define the location of centrioles in the cell with their roles.

Q20: Write two difference between Rough endoplasmic reticulum and smooth endoplasmic reticulum.

Q21: Differentiate between chromoplasts and leucoplasts.

Most Important Long Questions

Q1: Compare structure and function of chloroplasts and mitochondria.

Q2: State 'Cell Theory' and discuss its emergence.

Q3: Write notes on :(a) Cytoskeleton (b) Peroxisomes and Glyoxysomes.

Q4: What might happen if some lysosomal enzymes are absent? Explain with examples.

Chapter : 05 Variety of life

Q1: Define biodiversity and classification.
Q2: Define species and virology.
Q3: What is the need of biological classification?
Q4: Write the symtoms and prevention of hepatitis.
Q5: What is biological classification of corn?
Q6: Write the symtoms and prevention of AIDs
Q7: Write name of 5 kingdoms of classifications.
Q8: What is bionomial nomenclature?
Q9: Are viruses living? Give reasons.
Q10: Write the rules of nomenclature?
Q11: How can you prove viruses are non-living?
Q12: Differentiate between lytic phage and lysogenic phage.
Q13: What do you know about prions?
Q14: Give structure of Bacteria phage.

Most Important Long Questions

Q1: State and explain the life cycle of a bacteriophage.
Q2: State and explain HIV.
Q3: State and explain AIDs.
Q4: State and explain hepatitis.

Chapter : 06 Kingdom Prokaryotae (Monera)

Q1: Define the terms: Trichome, Antibody, Immunity, Transduction, Transformation, Plas - mids, Autoroph.
Q2: Write the postulates of germ theory.
Q3: What is difference between Parasite and Saprophytes?
Q4: What do you know about mesosomes?
Q5: Give difference between gram-positive and gram negative bacteria.
Q6: Write misuse of antibiotics.
Q7: Name general characteristics that could be used to define prokaryotes.
Q8: What do you know about trichomes?
Q9: Do any other microbial group beside bacteria have prokaryotic cells?
Q10: Write the structure and function of Heterocysts?
Q11: In what habitats are bacteria found?
Q12: What do you know about super blue-green algae?
Q13: Give some general means by which bacteria derive nutrients.
Q14: List functions of cell membrane perform in bacteria.
Q15: What are mesosomes and some of their possible function?
Q16: What is unique about structure of bacterial Ribosome?
Q17: Draw the three bacterial shapes.
Q18: Name a bacteria that has no cell wall?

Most Important Long Questions

Q1: Describe in detail the structure of bacterial cell wall, emphasizing Gram positive and Gram negative properties.

Q2: Write an account of different methods used for controlling microbes.

Q3: Discuss the role of antibiotics and immunization in controlling bacterial diseases.

Q4: What problem can arise due to misuse of antibiotics?

Q5: Describe general characteristics of Cyan bacteria with special reference to Nostoc.

Q6: Write Notes on :(a) Koch's postulates (b) Shape of bacteria (c) Flagella and pili (d) Growth in bacteria

Chapter : 07 The kingdom Protista (or Protoctista)

Q1: Write two characteristics:(i) Protozoa (ii) Dinolagellates(iii) Diatoms (iv) Slime molds (iv) Oomycetes.

Q2: What do you know about choanoflagellates?

Q3: Write the names of five phyla of section protozoa.

Q4: What do you know about tritonymphs?

Q5: What diseases are caused by trypanosome and entamoeba histolytica?

Q6: Give structure & function of diatoms.

Q7: Also write three characteristics of diatoms.

Q8: What do you know about kelps?

Q9: Name the parts of thaullus of a kelp.

Q10: Green algae are considered ancestral organism of green land plants, why?

Q11: What do you know about chlorella?

Q12: What do you know about the importance of algae?

Q13: Write two characteristics of ciliates.

Q14: Write briefly about mastigophora.

Q15: Differentiate between micronucleus & macronucleus.

Q16: What do you know about protists?

Q17: Draw a diagram of amoeba showing phagcytosis.

Q18: What do you know about eukaryodc organisms?

Q19: Differentiate between foraminiferas & actinopods.

Q20: What are three major groups of protists?

Q21: What are apicomplexans?

Q22: What do you know about algae?

Q23: How algae differ from plants?

Q24: What do you know about fungi?

Q25: What do you know about red tides?

Most Important Long Questions

Q1: Discuss important features of protists. Why are protists so difficult to classify?

Q2: How are protists important to humans?. What is their ecological importance?

Q3: Discuss general characteristics of algae.

Q4: Green algae are considered ancestral organisms of green land plants. Discuss.

Q5: What features distinguish Oomycotes from fungi?

Q6: Describe structure and reproduction of slime molds.

Chapter : 08 Fungi (The kingdom of recyclers)

Q1: Define symbiosis.

Q2: What do you know about lichens?

Q3: Define the term plasmogamy and karyogamy.

Q4: Write the names of four phyla of fungi.

Q5: Differentiate between karyogamy and plasmogamy.

Q6: What do you know about ascospore and ascocarp?

Q7: Differentiate between rusts and smuts.

Q8: How can you define primary, secondary and tertiary mycelium found in basidiomycota?

Q9: What do you know about budding and para sexuality?

Q10: What do you know about toad stools?

Q11: What do you know about histoplasmosis?

Q12: Give scientific name of yeast used in genetic research.

Q13: Differentiate between (a) Spore/Conidium (b) Ascus/Basidium (c) Dikaryotic/Diploid (d) Ascocarp/Ascus.

Q14: Differentiate between(a) Obligate parasite/Facultative parasite(b) Endomycorrhizae/ Ectomycorrhizae (c) Plasmogamy/Karyogamy.

Q15: What do you know about hyphae.

Q16: What do you know about mycorrhiza?

Q17: What do you know about dikaryotic hyphae?

Q18: What is a hypha?

Q19: What is the advantage of having incomplete septa?

Q20: What is the composition of fungal cell wall and how is this composition advantageous to fungi?

Q21: To which phyla do yeasts belong?

Q22: How do they difer from other fungi?

Q23: Name sexual and asexual spores of Ascomycetes.

Q24: What are mycorrhizae?

Q25: By what means can individuals in imperfect fungi be classified?

Q26: Give a single characteristic that diferentiates Zygomycota from Basidiomycota.

Q27: Why is green mold more likely to contaminate an orange kept in a refrigerator than are bacteria?

Q28: What is a fungus?

Q29: State two parallel characteristics of Ascomycetes and Basidiomycetes.

Most Important Long Questions

Q1: Describe, giving examples, different ways in which fungi are useful to humans.

Q2: Discuss taxonomic status of fungi.

Q3: Same enzymes of fungi are useful on one hand and harmful on other. Discuss.

Chapter : 09	Kingdom Plantae

Q1: How are ferns better adapted to life on land than liverworts and mosses?
Q2: Why bryophytes plants are called amphibious plants?
Q3: Account for the fact that megaspores are large and microspores are small.
Q4: How spores of mosses differ from spores of liver worts?
Q5: What important advances have angiosperms made towards the seed plant life?
Q6: What do you know about alternation of generation?
Q7: What is the importance of Seed?
Q8: Why sphenopsida are called arthophytes?
Q9: Sketch and label a fertile pinnule and a sporangium of Adiantium.
Q10: Differentiate between microphylls and megaphylls.
Q11: What is the importance of Double fertilization?
Q12: What do you know about double fertilization in angiosperms?
Q13: What is the importance of Heterospory?
Q14: Differentiate between monocot stem and dicot stem.
Q15: Give three examples of sub phylum psilopsidom.
Q16: Difference between microphyllous and megaphyllous leaf.
Q17: Define actinomorphic and zygomorphic flower.
Q18: Draw floral diagram of petunia alba.
Q19: What are the botanical names of potato gram and apple?

Most Important Long Questions

Q1: What is a seed? Why is the seed a crucial adaptation to terrestrial life?
Q2: Describe evolution of leaf and its importance in vascular plants.
Q3: Disciiss evolution of seed and it signiicance.

Chapter : 10	Kingdom Animalia

Q1: Distingnish between radial and bilateral symmetry.
Q2: Write the importance of sponges.
Q3: Distingnish between diploblastic and triploblastic animals.
Q4: What do you know about polymorphism?
Q5: Distingnish between anamniotes and amniotes.
Q6: Write the importance of corals.
Q7: What are Cnidaria?
Q8: Differentiate between infestation and disinfestations.
Q9: How doestape worms afect a person?
Q10: Write names and uses of any two useful insects.
Q11: What do you know about Sub-Class Prototheria?
Q12: What do you know about nymph and metamorphosis?
Q13: What do you know about Sub-Class Metatheria?
Q14: Give three characteristics of chordates.

Q15: What do you know about Sub-Class Eutheria?

Q16: Give the role of swim bladder in bony fishes.

Q17: What do you know about homeothermic?

Q18: Give two commercial importance of sharks.

Q19: What do you know about Amphibians?

Q20: What do you know about regeneration and maderporite?

Q21: What do you know about dipnoi?

Q22: Write names and harms of any two harmful molluscus.

Q23: What do you know about dugesia?

Q24: Differentiate between polyps and medusae.

Q25: What do you know about fasciola?

Q26: Differentiate between coelmates and acoelomates.

Q27: What do you know about taenia?

Q28: Differentiate between diploblastia and triploblastic animals.

Q29: What do you know about coral reefs?

Most Important Long Questions

Q1: Explain the diploblastic origin, alternation of generations in cranidaria.

Q2: Give the symptoms of the disease caused by certain nematodes.

Q3: Give an account of the major groups of Arthropods. What is the economic importance of insects.

Q4: Give the adaptations for aerial mode of life in birds. What is their origin.

Chapter : 11 Bioenergetics

Q1: List four features of a leaf which show that it is able to carry out photosynthesis efectively.

Q2: Define bioenergetics.

Q3: Summarize the role of water in photosynthesis.

Q4: Differentiate between photosynthesis and respiration.

Q5: What are T.W. Engelman and Melvin Calvin famous for?

Q6: Define photosynthesis with equation.

Q7: What is the difference between an action spectrum and an absorption spectrum?

Q8: Define compensation point with its occurrence.

Q9: What is the role of accessory pigments in light absorption?

Q10: Write down the molecular formula for chlorophyll “a” and b”.

Q11: When and why is there not net exchange of CO_2 and O_2 between the leaves and the atmosphere?

Q12: What are necessary pigments in plants? Give their importance?

Q13: What is the net production of ATP during glycolysis?

Q14: Differentiate between absorption and action spectrum.

Q15: What is the main difference between photophosphorylation and oxidative phosphorylation?

Q16: Differentiate between photosystem and photosystem.

Q17: What is the location of ETC and chemiosmosis in photosynthesis and cellular respiration?

Q18: What is Z-scheme?

Q19: How did the evolution of photosynthesis afect the metabolic pathway?

Q20: Define fermentation with types.

Q21: How does absorption spectrum of chlorophyll a difer from that of chlorophyll b?

Q22: Why are the carotenoids usually not obvious in the leaves? They can be seen in the leaves before leaf fall. Why?

Q23: How is the formation of vitamin A linked with eating of carrot?

Most Important Long Questions

Q1: Explain the roles of the following in aerobic respiration: (a) NAD+ and FAD (b) oxygen.

Q2: Sketch Kreb's cycle and discuss its energy yielding steps.

Q3: Describe various steps involved in oxidative break down of glucose to pyruvate.

Q4: Sketch respiratory electron transport chain. Discuss the signiicance of ETC.

Chapter : 12 Nutrition

Q1: What is the advantage of a digestive tract as compared with a digestive cavity?

Q2: Distinguish between nutrients and nutrition.

Q3: What are functions of human liver?

Q4: Write components and functions of saliva.

Q5: What measures should be taken to avoid food poisoning?

Q6: Name various types of the salivary gland in man.

Q7: Can we get along without large intestine? if not why?

Q8: Differentiate between peristalsis and anti-peristalsis.

Q9: Define nutrition.

Q10: How hunger pangs are caused?

Q11: What are heterotrophs?

Q12: Define heart burn or pyrosis.

Q13: Why is digestion necessary?

Q14: Name types of cells present in gastric glands.

Q15: What is holozoic nutrition?

Q16: What prevents the wall of stomach from being digested?

Q17: Make a labelled diagram of the alimentary in cockroach.

Q18: How secretion is produced in man?

Q19: What prevents the wall of stomach from being digested?

Q20: What is its effects on pancreas in man?

Q21: How do the digestive tract of herbivores differ from those of carnivores?

Q22: What is the role of liver in the digestion of food?

Q23: Differentiate between Herbivores and carnivores.

Q24: How can we control obesity?

Q25: How is gastric juice production regulated?

Q26: What is the contribution of liver and pancreas in the process of digestion?

Most Important Long Questions

Q1: Describe the role of different elements in plant nutrition.

Q2: Describe different methods of nutrition in heterotrophs.

Q3: Describe the characteristics processes involved in holozoic nutrition giving the example of Amoeba.

Chapter : 13 Gaseous Exchange

Q1: How does breathing difer from respiration?

Q2: Differentiate between organismic and cellular respiration.

Q3: How much carbon dioxide is present in venous and arterial blood?

Q4: How is air better respiratory medium than water?

Q5: How does air always remain in the lungs of human beings?

Q6: What do you know about photorespiration?

Q7: What are the products which are produced during photorespiration?

Q8: How much denser is a water medium than air medium for exchange of respiratory gases

Q9: What do you know about rubisco?

Q10: In what ways is air a better respiratory medium than water?

Q11: What do you know about respiratory surface?

Q12: In what ways is respiration in birds the most efficient?

Q13: Differentiate between cutaneous & pulmonary respiration in frog.

Q14: What is ATP?

Q15: What are counter current exchange and parabronchi?

Q16: What is Diving relex?

Q17: Differentiate between diaphragm and pleura.

Q18: What is Tuberculosis?

Q19: Name respiratory disorders.

Q20: What is Asthma?

Q21: What do you know about emphysema? Write its symptoms.

Q22: What is Emphysema?

Q23: What do you know about diving reflex?

Q24: What is Cancer?

Q25: What changes occur in animal during diving reflex?

Q26: What is respiratory distress syndrome?

Q27: List the air passage way in sequence from nostrils to alveoli.

Most Important Long Questions

Q1: Discuss the mechanical aspects of breathing in man.

Q2: Write a detailed note on respiratory pigments.

Q3: Describe the structure of alveolus in detail.

Chapter : 14	Transport

Q1: What do you know about the opening and closing of stomata?
Q2: Differentiate between water potential & solute potential.
Q3: What do you know about pressure-low theory?
Q4: Differentiate between plasmolysis & deplasmolysis.
Q5: What do you know about water potential?
Q6: Differentiate between apoplast & symplast pathway.
Q7: How are minerals and water taken up by roots?
Q8: Differentiate between single & double circuit heart.
Q9: What supplies the cohesion,and what is the source of tension?
Q10: What do you know about brain hemorrhage?
Q11: What do you know about Heart attack?
Q12: What do you know about Hypertension?
Q13: What do you know about Blue babies?
Q14: What is ATP?
Q15: What are counter current exchange and parabronchi?
Q16: What is Diving relex?
Q17: Differentiate between diaphragm and pleura.
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Q27: List the air passage way in sequence from nostrils to alveoli.

Most Important Long Questions

Q1: How does the pressure-low theory explain the movement of sugars through a plant?
Q2: What is the relationship of water potential with solute potential and pressure potential?
Q3: Write a note on immunity and its types.